



# Manufacturers Record

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## WELL DONE

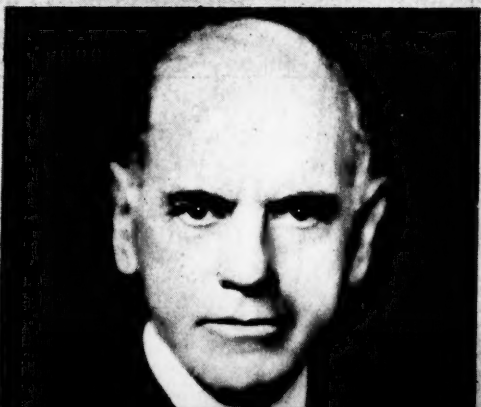
REFERENCE  
DO NOT LEND

Four men—Governor Davey of Ohio, Tom Girdler of Republic Steel, Frank Purnell of Youngstown Sheet & Tube and Eugene Grace of Bethlehem—have rendered industry and the nation a great service.

Under strong pressure from a biased administration to yield to mob threats in the recent steel strikes, they insisted on respect for law and liberty of the individual, and supplied the type of leadership the country has vainly sought in recent years.

STACKS

August  
1937



Upper right—Martin L. Davey, Governor of Ohio. Upper left—T. M. Girdler, Chairman, Republic Steel Corporation. Lower right—Frank Purnell, President, Youngstown Sheet & Tube Co. Lower left—Eugene G. Grace, President, Bethlehem Steel Corporation.

# This little Rig went to Market



... scraped and graded better roads between farm and market for the farmers of La Salle County, Texas. The county builds new roads, keeps old ones navigable in all weather, and *at low cost*. It owns one "Caterpillar" Diesel RD6 Tractor and No. 44 Grader (illustrated), one RD7 Tractor and No. 66 Grader, and two Killefer Roll-over Scrapers. On cost, the RD6, for instance, uses only 18 gallons of 6c fuel in an 8-hour day. The road to cost reduction—in Texas or Timbuctoo—calls for "Caterpillar" Diesel equipment.

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WORLD'S LARGEST MANUFACTURER OF DIESEL ENGINES  
TRACK-TYPE TRACTORS AND ROAD MACHINERY

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**AUGUST  
1937**

Volume CVI No. 8

## MANUFACTURERS RECORD

Devoted to the Upbuilding of the  
Nation Through the Development  
of the South and Southwest as the  
Nation's Greatest Material Asset

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**AUGUST NINETEEN THIRTY-SEVEN**



Paper Finish and Machine Room Nearing Completion, Chesapeake Camp Corp., Franklin, Va.

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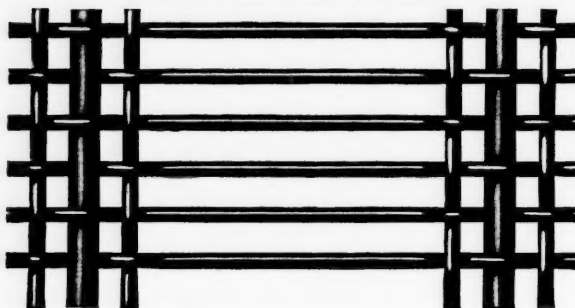
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## REACHING FOR THE MOON

**M**R. ROOSEVELT demanding more power claims to have a mandate from the people. They did not want him to pack the Supreme Court, however, as Congress soon found out. No mandate covered that.

Nor is the country in a mood to approve other attempts to corral Americans as spineless creatures of a dictatorship, whether by a fatuous government promising Utopia, or a labor autocrat riding rough shod to gain his way.

People are getting tired as Congress' recent action proved. The tide of impatience is rising. Costly mistakes have been too numerous. The tax bill is too high, with no commensurate results apparent. Proven economic laws have been supplanted by the absurdities of impractical visionaries.

Our exports of cotton have dwindled because we ignored the fact that cotton is sold on a world market and the world would not pay the pegged price we attempted. On the contrary, foreign growers raising it more cheaply increased their acreage, and now we are importing cotton.

Our imports of corn have grown to amazing figures. In 1933 we imported 160,000 bushels, and 31,471,000 bushels in 1936. In the first four months of 1937 we imported 29,732,000 bushels. *Since 1934 corn imports have been 107,404,000 against corn exports of 3,218,000 bushels.*

Government attempts to peg prices and change the law of supply and demand have proven disastrous before, but theorists of the New Deal disregard history, and yearn for the adoption here of foreign madness that is upsetting the world.

Commissions and bureaus are not growing any less. They are increasing in number and in their pernicious activities. Boards with the

power over business of life and death sit in judgment, when everybody knows in advance their verdict.

Threats continue. The minimum wage and hour bill promises irreparable damage to industry, especially Southern industry. Chambers of Commerce are voting resolutions opposing it, and the widespread volume of protest is increasing, but whether this will be effective remains to be seen.

Where are the acknowledgments that were to be made when mistakes were discovered? There have been plenty of mistakes, but no acknowledgment. Instead, reformers in the confidence of the executive are on the jump writing bills for the "more abundant life," and "contact" men are urging Congress to reach for the moon, while orderly progress is upset at continuing frightful cost.

The Citizens National Committee at Johnstown which was formed because of riotous conditions announces it is to be investigated by the National Labor Relations Board under the authority of the Wagner Act. A law impossible to administer with fairness because it is unfair in conception and has brought strife instead of stopping it.

"Resettlement" extravagances costing awful sums sooner or later must be charged off to the account of folly and experience. They may remain as a ghastly warning to prevent similar mistakes hereafter, but that won't reduce the debt.

Thoughtless ones feeding at the trough may give mandates, but they do not pay the bill, and even they before long will find their dreams shattered. There are some things mandates cannot fix. One of them is human nature, especially American nature, and there is the (*Turn Over*)

# As we see it—

## \$132,054,000 Unfavorable Trade Balance First Four Months

Foreign trade has continued to improve since 1933, but not in the way expected. The Administration theory of "buy more from abroad in order to sell more" is not working out.

Exports have increased in value 125 per cent since 1933, but imports have increased 206 per cent.

The balance of trade against the United States for the first four months of 1936 was \$13,225,000. In the first four months of 1937 exports were \$980,896,000, and imports \$1,112,950,000, making an unfavorable balance of \$132,054,000.

Foreigners have not bought here as expected, although they have had more of our money to do it with. We bought during the first four months of 1937, \$611,858,000 of their gold, and \$25,336,000 of their silver. They have bought our securities and increased their foreign short-term deposits in American financial institutions, but have not bought our merchandise as expected.

The greatest decline in exports has been in agricultural products. The curtailment policy applied to crops has reduced surpluses, while prices have been out of line with prevailing world levels. Particularly has this been true in the export of American cotton. We have played into the hands of foreign cotton producers who were quick to take over our foreign cotton markets. Not only are we losing our foreign outlets for cotton, but cotton from abroad is beginning to compete with sales of domestic cotton to the mills of the South itself, as the MANUFACTURERS RECORD pointed out in its July number.

The following figures are of interest:

FOREIGN TRADE (First Four Months)			
	Exports	Imports	Excess Exports (+) Excess Imports (—)
1927 .....	\$1,616,188,000	\$1,421,782,000	+ \$194,406,000
1928 .....	1,566,770,000	1,414,703,000	+ 152,067,000
1929 .....	1,844,888,000	1,532,823,000	+ 312,065,000
1930 .....	1,461,156,000	1,201,072,000	+ 260,084,000
1931 .....	907,413,000	754,026,000	+ 153,387,000
1932 .....	594,429,000	524,370,000	+ 70,059,000
1933 .....	435,336,000	363,026,000	+ 72,310,000
1934 .....	705,337,000	573,087,000	+ 132,250,000
1935 .....	688,408,000	667,179,000	+ 21,229,000
1936 .....	768,503,000	781,728,000	— 13,225,000
1937 .....	980,896,000	1,112,950,000	— 132,054,000

(Continued from page 27) law of supply and demand.

The sooner we get back to individual effort as the only means by which progress can be attained, the better it will be for everybody, and particularly for the youth of the country, who in too many cases are thinking in terms of the mass; thinking of "we" instead of "I" as the way to service and success.

## Too Much Control

The American Federation of Labor in its monthly survey of business says:

"Labor's nation-wide drive to organize in trade unions has fundamental significance. Not America alone, but every great industrial nation has seen within the last generation that business without social control, operated only to make profits, does not bring to working men and women the standards of living which modern industry makes possible. \* \* \* With the knowledge that industry is now equipped to produce an adequate living for all, that certain controls can help to make this possibility a reality, a new public conscience has developed."

If "social control" means government control, the public believes that has gone too far. It has found expression in the Wagner Law—which won't work; in the minimum wage and hour bill that is a monstrous impossibility in any effort for betterment in the attempts, deliberate and prolonged, to wipe out State's Rights. Surely American Labor doesn't approve that. Why not say so?

The American Federation of Labor is against Communism and must know that by giving more power to the theorists now in control our form of government is in serious danger. It knows our people have more liberty and better living conditions in America than anywhere else. Granting that in some respects these conditions could be still further improved, it must know that creative industry has been the main-spring of American development.

Labor might do well to lend some of its strength to the encouragement of what we believe is a common objective of both American labor and industry.

"Public conscience" wants more craftsmanship and less politics. Fewer strikes and more production.

## Marvels Of The Age

The report of the National Resources Committee refers at length to what it terms the "mechanism of modern life," and draws interesting conclusions as to the effect many new inventions will have upon the course of human events. For example, more than 130 functions of the photoelectric cell, which it is stated operates with accuracy greater than that of the human brain, are specified in the report. Photoelectric cells judge color more accurately than the human eye, and are said to be wholly dependable in making mathematical calculations.

Air conditioning is referred to at length. It is believed that its effect upon industrial progress will be tremendous in the next generation. It will have a marked effect in stimulating the growth of factories in warmer sections, with a consequent increase in employment. The largest air conditioning plant in the world is in a South African gold mine.

## As we see it—

(Continued)

### Minimum Wages and Hours

Of the legislation passed by Congress in the last few years, none has been more sinister in its threat to progress than the minimum wage and hour bill recently passed by the Senate.

Amos Pinchot, in a letter to the President, calls attention to the purpose of the bill as shown by its first draft. The protests against that were so numerous and widespread that changes were made in it, but despite these and the later amendments it will prove costly and unworkable.

The criticism of many prominent business organizations, which are vigorously opposing the measure, are based on the impossibility of administering it under varying conditions in different industries in different parts of the country, besides the increased cost that will be placed upon business operation by its adoption.

There is also strong resentment against the attempt to impose another regulatory measure that will fasten Federal control more firmly and detrimentally upon private effort.

The *Birmingham Age Herald* says, in referring to the South, "the danger is to essential and justifiable Southern differentials, to the South's purchasing power in increased costs of the things it needs, and to the South's outside markets in ill-considered increased costs of the products it has to sell. It is not only the industrialists who are fighting the bill, but the Montgomery, Ala., Farm Bureau has gone on record against it, joining the Montgomery Chamber of Commerce in opposition."

The Southern Lumber Industry Committee says:

"The farmers are just now waking up to the fact that they may be the heaviest losers in the program to fix arbitrary wages and hours by bureaucratic orders of a federal board at Washington.

"Efforts are being made to jam the legislation through Congress before the farmers and the small industries throughout the country realize the burden it may place upon them. Every farmer will be paying increased prices for what he purchases. It is estimated that the cost of fertilizer may be increased from \$1.00 to \$5.00 per ton depending upon the action the federal board may take, and that the cost of fruit and vegetable packages may be increased as much as 25 per cent. Every industry which employs a large amount of unskilled labor and every industry which necessarily must operate substantially longer than 40 hours per week is going to find that its costs of operation will be forced up from time to time by this federal board acting under the mandate of Congress to establish the 40-40 standard."

The bill provides for a Federal Board of five, sitting at Washington, to classify all industries, fixing the number of hours of work per week wherever employees are working more than 40 hours a week, and fixing minimum wages wherever any labor is paid less than 40 cents an hour. While the Board is not required to fix wages or hours at these figures, it is instructed by the bill to increase the pay and reduce the time to the figure stated as rapidly as practicable.

There is no question of the fact that in thousands of small industries, and large industries for that matter, located in various sections, pandemonium will prevail if an unworkable scheme of this kind is attempted.

Punishment is provided for an employer who violates orders of the Board. As a matter of fact, it is possible that penal provisions may be incurred before industries have an opportunity to know that orders have been published at Washington.

The Board would be empowered to regulate conditions within the limits stated of a minimum wage not in excess of 40 cents an hour, and a work week not below 40 hours. It would be supposed to order this however when "economically feasible, without curtailing opportunities for employment, to maintain a minimum standard of living necessary for health, efficiency, and general wellbeing."

We will have then a new Federal agency to go into every community in the land and determine what is necessary in wages paid and hours of employment for "health, happiness and wellbeing."

Hence control at Washington of the cost of production, and it does not require a vivid imagination to see as dangerously near Federal control of prices. All of which without taking into account the great cost of another army of jobholders that will be hired to swarm over the country.

### Oleomargarine Tax

Oleomargarine is a recognized wholesome food product. An important ingredient is the fat of cottonseed oil. Production in the United States in 1935 was 353,000,000 pounds, which required 96,000,000 pounds of cottonseed oil.

The Milk Producers' Federation is again demanding that a tax of 5 cents a pound be placed on it. It is an unfair penalty to place upon people of small income, and has no more reason in the scheme of things than to tax unfairly any competitive article which producers are able to sell cheaper than another.

There is a recognized place for oleomargarine. It is sold under that name and not as butter. Those who prefer it for reasons of taste or economy are entitled to have it without being unfairly penalized.

"Direct taxes and legislative restrictions," says Dr. W. R. Pabst, Jr., of Amherst College, "have already placed oleomargarine at a serious disadvantage which is not counteracted by the indirect taxes on butter."

Because of its production of cottonseed oil the South has a particularly important stake in the matter.

# Opportunities in the Southwest

BY

**C. C. Rockenback**

*General Freight Agent  
St. Louis Southwestern Railway Lines*

**T**HERE are approximately 1,500,000 acres of cut-over pine timber within 50 miles of Lufkin in East Texas, affording pulpwood at very low cost. There is only one paper mill and one pulp mill in the State of Texas, i. e., at Orange and Houston respectively.

In 1935, according to the United States Census of Business, \$9,621,000 worth of wrapping paper and paper bags was distributed wholesale in the West South Central States, namely Arkansas, Louisiana, Oklahoma and Texas. For the same year, wholesale sales in the State of Texas amounted to \$4,627,000. This market alone would be adequate to dispose of the entire production of a mill with 250 tons daily capacity.

About 400,000 acres of pulpwood timber suitable for paper manufacture is standing in the vicinity of Bolinger, Louisiana. Over 114,000 acres of this land is owned by large holders, in tracts of 1,270 to 36,120 acres, so that it may be easily blocked out and purchased at a low price by paper mill interests in fee simple (exclusive of mineral rights) if desired.

The Southwest offers to industry a vast store of natural resources basic to the country's primary industries. A chief function of this department is to describe and measure these various raw, agricultural and processed materials in relation to the nation's business in order

to promote sound development of this area.

Early concentration of industry in the East and North has been accentuated by subsequently increased production facilities in those same sections. Special types of technical labor and economies of management of adjacent plants have, in some instances, carried this concentration of industry beyond the point of increasing returns in profit. However, general retrenchment and decreased business turnover following 1930 have increased competition among manufacturers to the point where regional branch plants are being constructed to secure sectional markets to the particular manufacturer concerned.

Increased markets along with lower combined production and distribution costs, resulting from decentralized operations, now warrant construction of new plants in the Southwest. Expansion of the paper industry in the South and Southwest is an outstanding example of this differential.

Near East Prairie, Missouri, in Mississippi and New Madrid counties, there is a 22,000 acre tract of hardwood timber (gum, poplar, elm, etc.) which will yield about 165,764,000 board feet. Along the White River in Arkansas are five or six tracts of hardwood equal in size to the one at East Prairie.

In the vicinity of Rusk, Cherokee County, Texas, there are deposits containing some 23,000,000 tons of stratified

iron ore with an overburden of sandy soil averaging less than eight feet in thickness. These deposits are on an elevation providing drainage by gravity. This ore (limonite) analyzes fairly uniformly at from 49 per cent to 58 per cent iron content.

At Carbondale, Texas, there is a 2,000-acre lignite deposit containing about 22,000 tons to the acre—heating value of 10,000 B.T.U. per pound, with 60 per cent to 70 per cent volatile matter.

Some \$3,000,000 worth of rice was produced in Arkansas County, with considerably more being milled in Stuttgart, Arkansas, last year. Soybeans are used as an alternate crop one year in four. Thus, two crops are being developed to proportions which would justify establishment of processing plants at Stuttgart for industrial production.

In the area from Pine Bluff to Camden, Arkansas, are found some of the finest pottery clays in the United States. Flint is located nearby and feldspar in two adjoining states.

Extensive limestone deposits, adaptable to cement manufacture, are available near Waco, Line City, Oglesby, and Cavitt, Texas. At present one of the largest cement companies in the country is utilizing the deposits near Waco in a plant producing 2,500 barrels daily.

The small towns in Southeast Missouri and Northeast Arkansas offer ideal locations for branch plants supplying the St. Louis, Memphis and Little Rock industrial markets.

It is our policy to cooperate with industries in position to use these various resources to the end that they may be used on an economic basis and in a manner profitable to all interests affected.

## **Talco Asphalt and Refining Co., Mt. Pleasant, Texas**

**\$1,000,000 plant to produce asphalt and other petroleum products**



## **New Enterprises Set Record for Atlanta**

The number of new concerns established in Atlanta, Ga., during the first half of 1937 is the greatest for any similar period in its history, and payrolls are the highest.

Since January 1, 122 new concerns with pay rolls of over \$1,000,000 per year were established. W. W. Winter, Chairman of the Industrial Bureau of the Atlanta Chamber of Commerce reports. These included 19 new manufacturers, 29 sales offices, 47 resident representatives, 11 sales offices and warehouses, 4 retail stores, 5 service organizations, and 5 wholesalers with warehouses.

The Detroit News says a high school graduating class selected as a motto—"Works Progress Administration, Here We Come!"



# \$29,000,000 Plate Mill at Birmingham

To Advance Manufacture of Tin Products in the Lower South. Plant Capacity of 200,000 tons a Year Will Require 1,223,000 Tons of Raw Materials

WORK is progressing rapidly on the new tin plate development in Birmingham, Ala., of the Tennessee Coal, Iron and Railroad Company subsidiary of the United States Steel Corporation. This huge tin mill project, which will have an annual capacity of 200,000 tons of finished tin plate and cost \$29,000,000, will be ready for operation next year to serve the South, Pacific Coast and Hawaii. It will provide employment for approximately 2,500 workers and give the Tennessee Coal, Iron and Railroad Company a back-log or improved load factor which will improve conditions during seasonal variations in business. Production requirements of tin plate are uniform, having little seasonal variation.

The production of tin plate in the mid-South is expected to be an inducement for manufacturers of tin products to locate in the Southern area.

In the accompanying view below, left to right, the buildings shown in construction will house the Shearing Units, the North Cold Reduction Room, the Tempering Mills and Cold Reduction Mills, the South Cold Reduction Room, and the Annealing Department. In the foreground will rise the Tinning Units, Assorting Room, Warehouse, Box House and Loading Dock.

Excavation for equipment is over 65 per cent complete, and 30 per cent of the concrete has been poured. Of the 14,000 tons of structural steel to house the tin plate manufactory, 55 per cent has been fabricated and 48 per cent erected. A total of 14,500 squares of roofing and

siding will be required, of which 15 per cent has been placed.

All units of the new project will be motor-driven, the total connected horse power being 125,000. This is perhaps more significant when compared with the 30,000 connected horsepower of all of the company's rolling mills at Ensley, the figure generally used as a comparative one in the Birmingham area.

The tin plate project now in construction will make use of the cold reduction process, a radical step taken about five years ago in this branch of the steel industry. This entails cold reducing the steel strip as furnished by the hot strip mill.

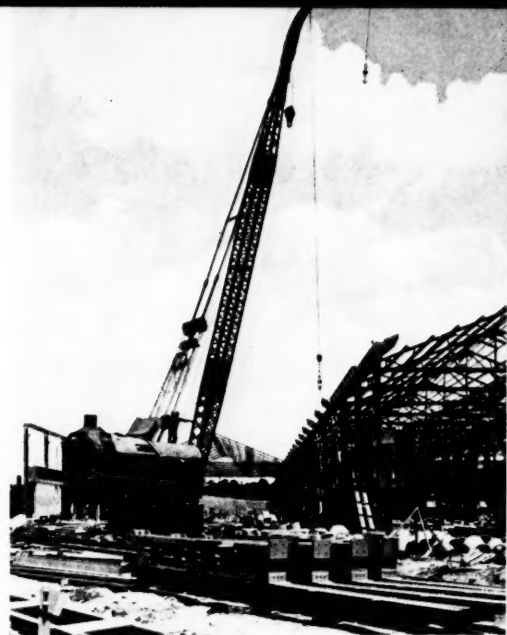
To produce the 200,000 gross tons of finished tin plate per year, the new plant will require 589,000 tons of ore, 535,000

*Steel goes up as construction makes a rapid pace in the Tennessee Coal, Iron & Railroad Company's new \$29,000,000 tin plate development in Birmingham, bringing a new industry to the lower South. It will be ready for operation next year, with an annual capacity of 200,000 tons of finished tin plate, and provide employment for 2,500 workers.*

tons of coal, 73,000 tons of dolomite and 26,000 tons of limestone, a total of 1,223,000 tons of raw materials.

The mines and quarries must provide 6.1 tons of raw material for each ton of finished tin plate produced. This, in turn, requires expansion of the Tennessee Coal, Iron and Railroad Company's mining operations, as well as the construction of additional coke ovens. Two batteries of ovens, each having a capacity of 1,100 tons of coke per day, are well in construction and will be ready for operation next year.

The total cost of the tin plate mill and supplemental developments is approximately \$31,000,000.



**New Tin Plate Mill Under Way at Birmingham for TCI.**



# Industrialization of a Great Port

**\$2,500,000 in Plant Additions at Norfolk in Past 18 Months**

BY

**H. M. Thompson**

*Commissioner, Norfolk Industrial Commission*

AS one of the principal seaports of the country, Norfolk, Va., is now attaining a high rank among the industrial centers of the South. A recent survey by the Norfolk Industrial Commission shows there are 268 plants in the area employing a total of 20,000 persons, furnishing an annual payroll of over \$20,000,000, and producing goods exceeding \$100,000,000 in value a year.

In the past 18 months more than \$2,500,000 were invested in new plants and additions to existing ones, including:

<b>Ford Motor Company</b> , assembly plant addition to provide docking facilities and increase capacity to 400 units a day .....	\$500,000
<b>Southern States Fertilizer Company, Inc.</b> , new plant of 70 acre site fronting on tidewater and extending to Belt Line Railroad and highway .....	300,000
<b>Eastern Tar Products Corporation</b> , tar oil refining .....	50,000
<b>Aberfoyle, Inc.</b> , acquisition of rayon processing and weaving plant and improvements .....	750,000

**Extensive Frontage on Deep Water Affords Opportunity for Industrial Development at Norfolk, Va.**



**Norfolk, Va.**  
One of the greatest deep-water terminals on the Atlantic Seacoast

<b>Prest-O-Lite Co., Inc.</b> , unit of Union Carbide & Chemical Co., purchased 6-acre site for acetylene manufacturing plant .....	150,000
<b>Atlantic Ice and Coal Co.</b> , brewery addition .....	50,000
<b>James River Oil Co.</b> , waterfront oil storage and distributing station .....	50,000
<b>Shenandoah Milling Co.</b> , Flour and grain mill daily capacity 1,200 bbls. ....	150,000

Among important distributing plants established in Norfolk during the past 18 months are The Canada Dry Ginger Ale, Inc., Philip Carey Co., Inc., and two candy factories. Improvements were made to the plants of the Norfolk Tank Corporation, L. F. Laucks, Inc., Weaver Tankage Corporation, Atlantic Furniture Manufacturing Co., Old Dominion Peanut Corporation, Birchard's Dairy, Inc., Nor-

folk Newspapers, Inc., Nehi Bottling Company, and the Milwaukee Bottling Co.

Employment has been increased materially, additional stimulus given to retail trade, and the railroad and utility companies have provided the necessary facilities to take care of the increased industrial business in the area.

Industries firmly established at Norfolk include the manufacture of commercial fertilizers; acetylene; refining of cottonseed oil; production of Portland cement; ship construction and repair; assembling of automobiles; making of men's and women's clothing, processing of soy beans; milling and blending of flour; manufacture of burlap and cotton bags; knitting of hosiery and underwear; roasting of coffee; founding of brass, aluminum and iron; manufacture of brake shoes and car wheels; manufacture of mattresses and springs; weaving of broad silks; cleaning and roasting of peanuts; manufacture of pickles; the fabrication and treatment of wood including sawmill, planing mill and creosoting operations, veneers, and production of truck packages.

Supplementing the commercial advantages cited are the Federal government activities including the large Naval Yard and Naval Operating Base.

The Norfolk Industrial Commission is the community agency, through which the municipalities, banking institutions, railroads, and public utilities of this section, assist manufacturers in analyzing the advantages of a Norfolk location, and then foster the development of such enterprises to a successful basis.



# Skilled Labor Shortage

FROM surveys so far made, industrial employers are unanimous in the opinion that the deficiency in skilled labor supply only can be met by the establishment of a comprehensive and efficient system of apprenticeship training. The shortage has grown more acute in recent months, particularly in construction work and in machine tool operations.

Surveys made by various business bodies, including the National Industrial Conference Board, the Southern States Industrial Council, the U. S. Chamber of Commerce, Warner & Swasey Company of Cleveland, have covered more than 500 firms, and 482 of them reported a shortage of skilled labor. In the metal working industry the shortage is estimated at over 19,000 men.

Employers recognize that apprenticeship must be made more attractive than in the past by offering not only all around mechanical training, but the prospect of satisfactory earning power and stability of employment with advancement opportunity. It is also generally believed that the best way to teach men is to train them in plants where they work. D. C. Vandercook of the International Correspondence Schools personnel training division, says that the major part of the problem "is that of getting small industries to carry their fair share of the responsibility of training."

Types of apprenticeships vary widely, from the indentured few working in small shops who study one trade for a year to four years, to the cooperating multi-shop and foreman schools developed in several industries in the last ten years.

Moline, Ill., has a good example of a successful school sponsored by the Tri-City Manufacturers' Association. In 1926, 17 plants in six mid-western cities under the guidance of the Association cooperated in starting four apprentice schools in which eight trades are taught. Today 34 concerns are cooperating. Apprentices studied tool making, machine work, metal and wood pattern making, foundry work, electricity, general plant maintenance and drafting. These schools, run on a mutual assistance basis, permitted the establishment of classes under individual plant and shop operation where the minimum practical number of students to start a class was lacking.

Instructors in one trade rotated from one plant to another. In the past ten years as many as 14 trades have been taught at one time. Last year 215 apprentices were enrolled. Four large public schools play an important part in the program. Interest has grown and the opening of paying positions has proven the

## Growing Interest in Apprenticeship Training to Overcome This Obstacle to Recovery.

value of the training to employers and journeymen alike. In 1936, 65 out of 100 apprentices were high school graduates, which was an 82 per cent increase in the number of men of this degree of education enrolled since 1926.

In these apprentice schools the correlation of trade practice with job and class room instruction are stressed. There are other features:

1. Directed study on company time with wages paid the student workman equal to those for shop-time.
2. Home study time equal to time spent in directed class work.
3. Progression from one subject to another to maintain student interest.
4. Definite assignment of work for given periods, to set up definite objectives. An analysis by the National Industrial Conference Board of the factors which contribute to the lack of trained men shows a variety of them:

1. A tendency to develop single machine operators for special machines in place of all-round mechanics capable of operating any machine.
2. Abandonment of industrial employment by skilled craftsmen in favor of other work.
3. Deterioration in skill and usefulness of more mature workers through prolonged unemployment.
4. Reduction in the supply of highly skilled labor because of obsolescence and mortality at the estimated rate of 5 per cent annually, resulting in a 35 per cent loss from this since the beginning of the depression.
5. Inadequate apprentice training before the depression, the loss from this cause being aggravated by the suspension of many apprentice programs during the depression.
6. Industry's inability, because of business uncertainty, to assure continued employment influences mechanics on relief to refuse jobs which may be temporary on the ground that it is difficult to get back on relief rolls after leaving jobs of this sort.
7. Government enterprises, such as navy yards and public works projects have drawn from industry some of its most highly skilled labor because of industry's inability to compete with government wage scales, and because of the more continuous work on government projects.

Employers on their part have a number of suggestions to make concerning methods that would be effective in relieving the skilled labor shortage, which will be-

come more marked as business recovers. These suggestions include the following:

1. Changes in the method of granting relief so as to make the receipt of the "dole" much less attractive than employment in private industry.
2. Discontinuance of unfair competition for skilled labor by government agencies and reduction of public works wage scales to bring them into line with actual prevailing wage scales.
3. Allocation of part of the government expenditures for the training of unemployed labor.
4. Development and re-training of those workers whose skill has become dulled through unemployment.
5. Further improvement of machine tools to make them more automatic, and thus to reduce the need for skilled labor.

In some localities municipal or state trade schools have been developed to a high degree. The Shreveport, La., trade school is a good example of this. One hundred and ten day pupils completed the year's work in this school in June. It is one of two state operated schools in Louisiana, the other being located at Bogalusa. Two city operated trade schools, one for boys and one for girls, are run by the City of New Orleans. A number of work-learn shop schools have been set up in the last year in various Southern cities.

While it is difficult to estimate the total number of industries operating apprenticeship systems, most concerns employing a high percentage of skilled men are following some worker-training plan.

In Detroit, 12 automobile plants carry the apprenticeship idea further. They train foremen and minor executives to make them better leaders and managers. They have regular weekly meetings during eight months of the year to study methods of handling men and materials.

## Continued Decline in Cotton Exports

Exports of raw cotton from the United States continue to fall behind. For the 11 months August-June, latest figures available, exports were 5,316,000 bales valued at \$364,296,000, compared with 5,816,000 bales, valued at \$373,364,000 for the corresponding period of the previous season.

### UNMANUFACTURED COTTON EXPORTS (Calendar Year)

Average	Bales	Value
1926-1930	8,287,000	\$765,674,000
1931	6,956,000	325,067,000
1932	9,059,000	345,164,000
1933	8,532,000	398,212,000
1934	5,943,000	372,755,000
1935	6,093,000	390,598,000
1936	5,641,000	361,043,000



# Pottery Making in Georgia

## Where World's Greatest White Clay Belt Affords an Abundance of Fine Kaolin

BY

**F. H. Oppen**

*President, Savannah Kaolin Co.,  
and  
Gordon Kaolin Co., Savannah, Ga.*

**A** STRIP of Georgia Fall Line Hills in the Coastal Plain 220 miles long and from 40 to 50 miles wide, contains, an abundance of fine kaolins in this greatest of the world's white clay belts. It is underlaid in hundreds of areas with three different types of sedimentary kaolin, hard, semi-hard and soft, ranging in clay depth from 10 to 50 feet, with overburden from 4 to 60 feet. On the 50-mile stretch of Federal highway through McIntyre and Irwinton, between Milledgeville and Dublin, the auto traveler can see enough "red" in an hour to impress him for a lifetime. The entire country is red. In the deep cuts on the hilltops and in ravines come to view immense banks of fiery-red, alluvial clay, and along the thinning slopes he may travel over long stretches of solid, white clay and Fuller's Earth in glaring contrast to the red.

### Slow Beginning

Many pamphlets and books have been written by scientists, geologists and ceramists on the commercial importance of these rich white clay deposits as to their possible industrial utilization in one field or another; and yet it seems passing strange that with so much research and publicizing on the part of trained and nationally recognized authorities, these vast mineral resources with respect to their use in burned ware, are so much like the attempt to take the horse to the fountain and "old dobbin" would not drink. Of course, Georgia is largely an agricultural state. Time was when prospective purchasers of clay lands for development would be turned away by the owner be-

cause he had planted cotton on the land and thought of it more in terms of the value of the cotton crop than of the possible clay crop beneath it.

The recently reported formation of the Southland China Company in Atlanta, for the purpose of acquiring the clay-burning plant of the former Georgia White Brick Company, in Gordon, and converting it into a modern whiteware (china) plant, has created wide-spread public interest, concerning the possibilities of pottery making in Georgia. The new whiteware enterprise at Gordon, will not be the first pioneer in its line in Georgia. That honor belongs to the Carling Tile Company, of Macon, which has been in operation during a limited number of recent years. Their first year's business was doubled in the second, and their constant expansion and progress are proof of the pottery pos-

**Kaolin Mine, Twiggs Co., Georgia**  
P. W. Martin Gordon Clays, Inc., washing plants, Gordon, Ga., operated by Moore & Munger

sibilities in Georgia with good management.

### Prophecy Fulfilled

The 1926 convention of the American Ceramic Society in Atlanta was the first of its conventions held in the South. Upon its closing, about half of the attendants, some 500, were taken on a trip into the white clay country, 120 miles south of Atlanta, in middle Georgia. Many of the clay experts expressed astonishment at the marvelous extent of the kaolin deposits in the Gordon and McIntyre district of Wilkinson County. G. A. Bole stated he had upon many occasions worked in Georgia clays in the Columbus, O., laboratory with his hands, and was glad, upon this occasion, he had been able to walk in it with his feet. The clay miners were happy for once to meet clay burners. Neither producer nor consumer had ever met before. Since Georgia white clay was then almost exclusively mined and refined for the book paper trade as filler, the idea of Georgia white clays for use in whitewares was like the wish which is father to the thought. Dr. A. V. Bleininger, great nestor of the porcelain world, was asked by the writer whether he thought Georgia sedimentary kaolins would ever come into use as a serviceable raw material in whitewares. He ventured the prediction on the spot that in time they would be utilized for that purpose and that this time would not be far distant. We met again after eleven years in this year's ceramic convention in New York. One of my first questions addressed to him was: "Has that prophecy come true?" And when Bleininger answered emphatically: "My prophecy has been amply fulfilled," I have good reason to believe he knew what he was talking about.

As a Georgian, it was quite embracing in 1926 to be asked by the clay burners from distant pottery centers: "Why all this lack of enterprise in Georgia with so much fine raw material, and not even a clay pipe, a doll-head, or a handful of playing marbles made of it in Georgia?" Would there have been a Pittsburgh, or Birmingham, without an abundance of the required raw materials for the steel industry in their immediate localities?

### 65 Per Cent of Domestic Output

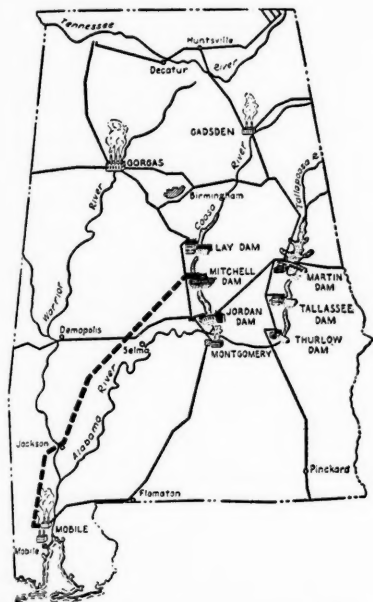
The commercial history of Georgia kaolins began in the year 1900. The U. S. Bureau of Mines reported for that year a production of 6885 tons of "miscellaneous" clays in Georgia. A comparison of these figures with those of 1936, when production rose to 419,395 tons in Georgia (65 per cent of the total domestic production), indicates the growing economic and technical importance of the raw material. The remarkable increase is partly due to a normal growth in the use of domestic kaolins and in a large measure to replacement of white clays formerly imported. The white clay mines in Georgia still yield largely the filler for book paper, coated

(Continued on page 64)





## \$1,700,000 For High-Voltage Electric Line In Alabama



**M**ORE than \$1,700,000, including equipment, is to be spent in the construction of a high-voltage electric transmission line 187 miles long from Mitchell Dam to Mobile, Ala., by the Alabama Power Co. President Thomas W. Martin, in announcing the new project, said the items required, such as poles, timber, steel, cement, etc., will amount to about \$500,000 and the payroll \$400,000 additional.

The new line will operate initially at 110,000 volts and it will be so erected that later it can be changed over to 154,000 volts with a capacity of 60,000 kilowatts which will more than double the present available power in southwest Alabama.

It is to interconnect with the Company's six hydro electric plants on the Coosa and Tallapoosa Rivers, and with its Gorgas steam plants, will connect at Selma with lines now serving that area, and from there will extend to Mobile. The route will be through Chilton, Autauga, Dallas, Wilcox, Clarke, Washington, and Mobile counties. The line will be a companion to another now serving Mobile at a distance approximately 50 to 60 miles eastward and thus result in a new power "loop" for South Alabama.

In announcing the construction of the new line, President Martin said:

"The Company hopes to continue its efforts to locate new industries in Alabama, and will, to the extent of its ability, finance the necessary construction of lines to serve them. It has financed its extensions out of available cash resources but on account of

threatened competition of the Government through its agent, TVA, and unless this unfair competitive condition is soon changed, the Company will be unable to finance the further extension of its system to supply power requirements which will be demanded by new industries in many parts of the State."

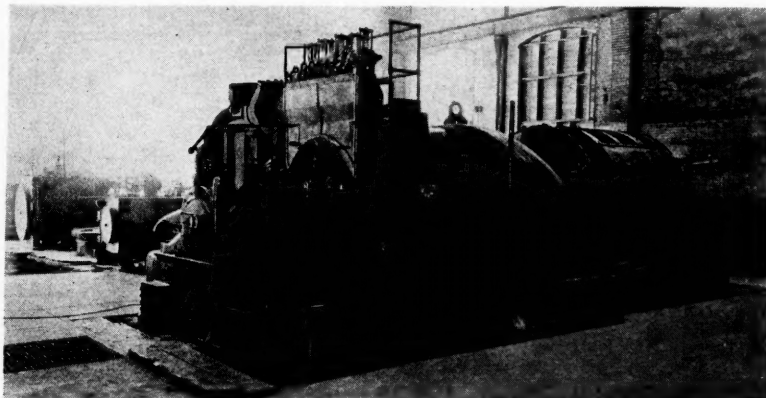
## Arkansas Power & Light Increases Capacity

**A**RKANSAS Power & Light Co., which last month negotiated a contract to purchase T. V. A. surplus power for at least five years at \$750,000 annually, placed a new unit in operation at its Little Rock plant and has another project under construction on the Ouachita River at the Blakely site, 15 miles northwest of Hot Springs.

Output of the Little Rock plant was raised to 25,000 kilowatts by the installation rated at 10,000 kilowatts and made at a cost of \$500,000. New Babcock and Wilcox steam equipment is capable of producing 188,000 pounds an hour. Old switching equipment was replaced by new structures to form part of the interconnected system, which includes lines from a fuel-operated plant at Sterlington, La., and from Rammel and Carpenter dams on the Ouachita River, which also will drive the hydro plant now being built. Its initial capacity is to be 31,700 horsepower and its current will be injected into a system which now supplies 250 cities and towns and thousands of farms in Arkansas.

C. S. Lynch, chief engineer of Arkansas Power and Light, is supervising the work and also the construction of the 31,700-horsepower hydro plant on the Ouachita River. Starting in the employ of the com-

### New Turbo Generator, Little Rock Steam Electric Station.



pany 17 years ago as purchasing agent and load dispatcher, Chief Engineer Lynch served during construction of the Rammel hydro-electric plant and in carrying out the Carpenter hydro-electric project built in connection with Ebasco Services, Inc. These two projects are sister undertakings of the hydro plant now under construction.

## Work on Tuckertown Dam Postponed

**A**BOUT two months ago the Aluminum Company of America announced through its subsidiary, the Carolina Aluminum Company, that plans had been prepared for immediate construction of a concrete dam and power house on the Yadkin River near Tuckertown, N. C. It has just been learned that these plans have been indefinitely postponed, and contracts made for the electrical equipment, besides other items, have been cancelled. All of the engineering work has been suspended and the purchase of additional land in the vicinity, which was under way, has been stopped.

The hearing before the Federal Power Commission, which it was thought would be more or less of a routine matter, it seems will involve a study by the Commission of the possible effect the dam at Tuckertown may have on navigation. The Aluminum Company and attorneys for the Federal Power Commission will file briefs by September 15, after which the Commission will give further study to the question.

The company, in filing with the Commission its intention to construct the dam, reservoir and power house, claimed that navigation would not be affected by the project. The five dams on the Yadkin are not equipped with locks and the claim of the company has been that the work at Tuckertown would have no appreciable effect on the stream flow.

The anticipated work would have required about three years for completion; given employment to several hundred men. The dam was to be 1300 feet long, 90 feet high, create a lake of more than 3,000 acres, and the installed horsepower capacity was to be 50,000. In addition to that, it was expected that the production capacity of the Badin Works of the Carolina Aluminum Company would be materially increased in order to utilize the power that Tuckertown would produce.

# Revival of Sea Island Cotton Industry

**A**T the last session of the Georgia General Assembly an appropriation of \$7,500 was made to the State Department of Entomology to carry on research work on Sea Island cotton in an attempt to revive this once profitable crop. Progress is being made in seed breeding and other research work.

Sea Island cotton (*Gossypium barbadense*) was introduced, presumably from the West Indies about 1786. At the time of introduction, the plant was quite different from that now being grown. The plant was a perennial, larger, later and inclined to be unproductive. Through several generations the Georgia and South Carolina growers carried on breeding work. They selected seed from those plants that produced more fruit, longer staple, etc.

The only sections in the Cotton Belt that have the proper soil types and climatic conditions suitable for the production of sea island cotton are the southern portion of Georgia, the north central portion of Florida and the coastal section of South Carolina. The production prior to 1919, at which time growing was practically abandoned, seldom ran over 100,000 bales per year. The average yearly yield per state from 1910 to 1914, in round numbers, was: Georgia, 50,000; Florida, 30,000; and South Carolina, 8,000. The price paid for sea island cotton over a half century period ran more than three times that of upland cotton.

It is a well recognized fact that sea island staple is longer, stronger, finer and more durable than that of any other cotton grown in the world. The staple of sea island cotton ranges from 1¾ inches to 2 inches. The quality of this staple left the growers without competition from other countries or other sections of this country. Therefore, prices fluctuated very little and the growers were prosperous.

Discontinuation of Sea Island growing around 1918 or 1919 is generally supposed to have been brought about by the arrival of the boll weevil. However, other factors entered. Otherwise, it is doubtful if so profitable a crop would have been dropped without a struggle. Some of the things that caused the crop to be abandoned, besides boll weevil, were: the war had caused a scarcity of labor, Upland cotton and other farm products had reached price levels never before known, and it was about that time that attempts were made to grow Pima, an Egyptian hybrid, on a large scale in the irrigated sections of Southern California and Arizona.

**Crop of 100,000 Bales Prior to 1929 Dropped to 15 Bales in 1934. About 5,000 Bales of This Valuable Long Staple Product Is in Prospect for 1937**

BY

**M. S. Yeomans**

*Georgia State Entomologist*

This new Egyptian cotton was generally thought, at that time, to be a suitable substitute for Sea Island cotton and the Sea Island cotton growers were led to believe that they could not compete with Pima, grown under irrigation "where the farmer made his own weather" and where weevils "could not live." As a result, seeds were not saved, roller gins were shipped to the Pima belt and the former growers started growing tobacco or some other less profitable crops. Pima had its peak crop in 1920 with 92,000 bales and the production in 1935 had dropped to 17,000 bales.

Breeding work has been done that hastened maturity of sea island and lessened the danger of boll weevil migrating from upland cotton when it reached maturity. The need for sea island staple is much greater than when the industry was dropped. The acreage suitable for growing this staple in the belt was hardly touched and with proper management the attempt now being staged to resume growing should be successful. Southern Georgia alone is capable of producing many times over the former annual production of the three states combined, should the demand warrant it and from all indications the demand will be for a larger production of pure sea island cotton. The last session of the Georgia general assembly which terminated on March 25th of this

year recognized the value of sea island cotton to the southern portion of the state and made an appropriation to the Department of Entomology to conduct experiments for the control of boll weevil and to continue breeding work in order to develop the best available strain of sea island cotton. With this appropriation—the Georgia Department of Entomology and the U. S. Bureau of Entomology and Plant Quarantine are conducting experiments for the control of boll weevils on sea island cotton in the coastal counties of the state of Georgia where we have the most ideal conditions for the boll weevil building up heavy populations. In other words, we are conducting these experiments under the most severe conditions possible.

The Georgia Department of Entomology will conduct the breeding work independent of any other agency. In these experiments, we are using two strains of sea island cotton, one known as the Seabrook strain which was developed by the U. S. Bureau of Plant Industry and the Gaddis strain which was developed by Messrs. B. M. and C. H. Gaddis, employees of the Georgia Department of Entomology. The old type of sea island cotton made a very rank growth, the bolls would mature and remain on the stalk a month before opening and had many other objectionable features. Both of the strains of sea island cotton—Seabrook and Gaddis—do not have many of the objectionable features of the old type of sea island cotton but yet there is plenty of room for continued work on both of these strains.

Revival of the sea island cotton industry can only be accomplished by attacking the problems confronting the revival of this once very profitable industry on a scientific basis and that is what the Georgia Department of Entomology is doing. If our attempts are successful and we are extremely hopeful, it will mean additional revenues amounting to hundreds of thousands of dollars to the cotton growers of southern Georgia and the cutting off of imports of long staple cotton from other countries. The revival of the sea island cotton industry will also put out of production many thousands of acres of land which are now being planted in short staple cotton.

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## Less Cotton on Hand

*A carryover of 4,400,000 bales of American cotton in the United States on July 31, about 1,000,000 bales less than last year, is estimated by the Bureau of Agricultural Economics.*

*World production is estimated at 30,900,000 bales, of which the foreign production is placed at 18,500,000 bales. Both figures are record highs.*

*Cotton mill activity in the United States is continuing high with new orders running behind mill output since the middle of March.*

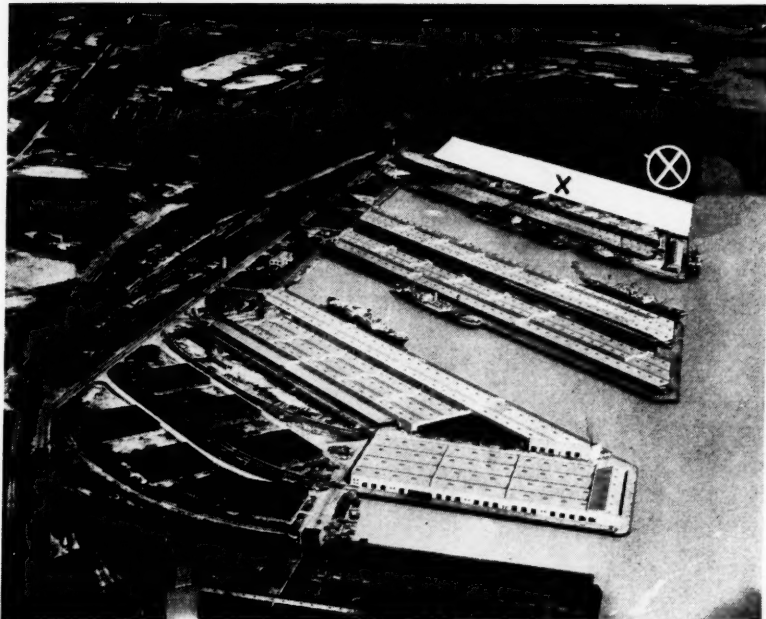
## New Industries for Mobile

The Aluminum Ore Company, East St. Louis, Mo., a subsidiary of the Aluminum Company of America, selected Mobile, Ala., as the site for a \$4,000,000 smelting plant. A contract has been signed with the Alabama State Docks Commission for a 75-acre plot fronting on the Mobile River. The new plant probably will be completed in 10 to 12 months and will give employment to 400 or 500 men with an annual payroll of approximately \$1,000,000.

The plant will reduce bauxite ore through an electric furnace process to aluminum oxide to be shipped to the company's plants at Alcoa, Tenn., Badin, N. C., and Niagara Falls, N. Y., and turned into aluminum.

Some of the uses for the Mobile product are power transmission lines, railway cars, airplanes, automobile bodies, cylinder heads and pistons, foil for package wrapping and collapsible tubes.

The Mobile Chamber of Commerce states this is the second industry to locate in Mobile within the past 90 days. Construction is to start in September on a 40,000 square foot building for the Meyerco Compound Lumber Company, a subsidiary of the Haskellite Manufacturing Corporation of Chicago and Grand Rapids, to manufacture built-up panels from imported logs. The Meyerco industry is located on the waterfront property of the Gulf, Mobile & Northern Railroad.



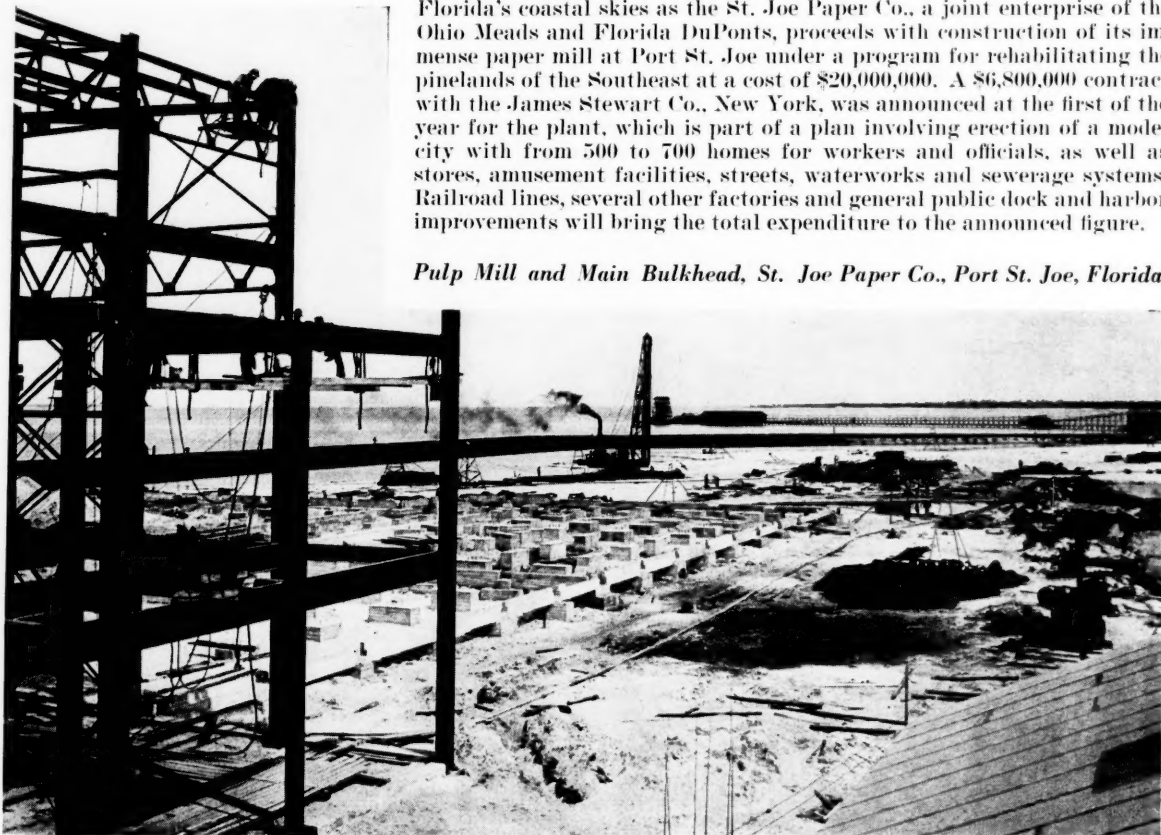
*Alabama State Docks, Mobile*

Circle x is the site of the Aluminum Ore Company's plant and white strip marked x is location of new slip and docks to be constructed.

## \$20,000,000 Port St. Joe Project

The heavy steel skeletons of huge buildings are silhouetted against Florida's coastal skies as the St. Joe Paper Co., a joint enterprise of the Ohio Meads and Florida DuPonts, proceeds with construction of its immense paper mill at Port St. Joe under a program for rehabilitating the pinelands of the Southeast at a cost of \$20,000,000. A \$6,800,000 contract with the James Stewart Co., New York, was announced at the first of the year for the plant, which is part of a plan involving erection of a model city with from 500 to 700 homes for workers and officials, as well as stores, amusement facilities, streets, waterworks and sewerage systems. Railroad lines, several other factories and general public dock and harbor improvements will bring the total expenditure to the announced figure.

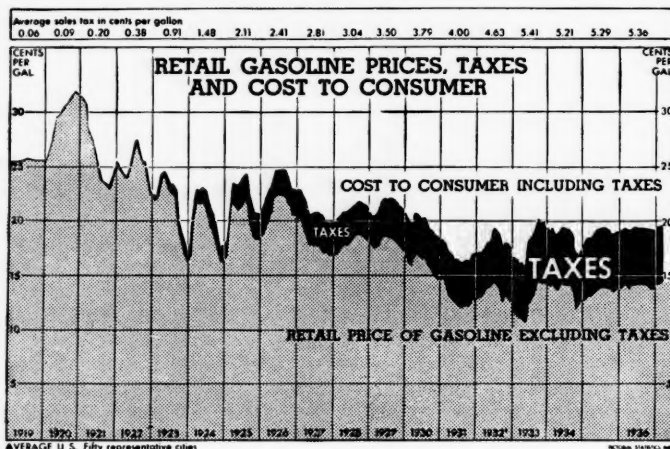
*Pulp Mill and Main Bulkhead, St. Joe Paper Co., Port St. Joe, Florida.*





# Widening River of Taxes Deluges Motorists With Higher Costs

Chart shows how cost of gasoline taxes has increased since 1919, largely affecting economies resulting from 50 per cent reduction in gasoline prices. Preliminary estimates of the American Petroleum Industries Committee indicate these heavy retail sales taxes will extract nearly \$1,000,000,000 from motorists this year.



## 1,000,000 Gallon Water Tank

A 1,000,000 gallon radial-cone bottom elevated tank has been completed for the City of Montgomery, Ala., by the Chicago Bridge & Iron Company. This par-

ticular design permits a large capacity with a relative low range in head between the upper and lower water levels. The installation is 70 feet to bottom and



95 feet to top, giving it a range of 25 feet.

J. M. Garrett, City Engineer, states the water supply is from deep artesian wells, 17 of which are air lift wells, and 15 electrically equipped. The main pumping station contains four pumps, two Allis-Chalmers, electrically operated; one Morse pump, electrically operated, and one Allis-Chalmers, steam operated.

The water is pumped into two standpipes, six concrete reservoirs, and the new elevated tank for distribution over approximately 155 miles of mains, from 6 inches to 24 inches in diameter, supplying a maximum of 7,200,000 gallons of water during the summer months.

## Higher Prices for Paper

Pulp and Paper Mill Expansion in the South a Most Timely Development

THE reported increase of prices of newsprint to take effect the first half of 1938 has caused renewed interest on the part of American newspaper publishers in the development of newsprint mills in the South.

Canadian producers of newsprint, beginning the first of next year, are to ask \$50.00 a ton, or \$7.50 above prevailing prices, and it is rumored that the price will rise to \$55.00 a ton for the second half of 1938. The increased activity in paper plant construction in the South and the expected development of at least two new newsprint projects is most timely in view of the threatened world shortage of newsprint, and the boosting of prices.

The paper making industry, as well as the publishers of the country are watching with keen interest developments in the Southern paper field. In recent months more than \$90,000,000 have been invested in new or proposed paper mills. Some of these mills are now nearing completion and while all of them are devoted strictly to the manufacture of kraft pulp and paper, several are experimenting in the bleaching of kraft pulp.

Not only has the South sufficient pine resources to supply more than our present requirements of at least 12,000,000 cords of pulp wood a year but it has other raw material resources used in the making of paper. Naval stores, salt, soda ash and clays are available in abundance. The technical advances are keeping pace with the paper mill development. The Mathieson Alkali works, and others, have been busy on methods for bleaching the brown kraft product for better appearance of package and for possible new uses.

It is stated that by methods now in use, kraft pulp can be made whiter than the present newsprint. The essential feature of the whole Southern paper development, is that kraft pulp can be made for about \$25.00 a ton against about \$45.00 a ton for northern pulp.

## Coal Production Ahead

Production of bituminous coal up to July 24 this year amounts to 245,566,000 tons compared with 222,492,000 tons last year. Total bituminous coal production for the first three weeks of July is approximately 20,545,000 tons, based on reports of the Bureau of Mines and the National Coal Association.



# Editorial Expressions

## from Southern Papers

### on everyday matters of importance

The bill now pending in Congress, known as the fair labor standards bill, contains provisions embodying serious danger to the liberty which is the heritage of the American people. In this bill is a clause which, if enacted into the law, would, it is charged, make possible a bureaucratic rule for the United States which would be no less onerous than the dictatorships in Germany and Italy.

"THE CONSTITUTION" Atlanta, Ga.

Somewhere in this country there may be a few persons of reasonable intelligence who do not see how far the present administration has gone along the road to a dictatorship and the Red rule of the proletariat. If the demand by the Secretary of Labor that state governors should resort to a violation of the Lindbergh anti-kidnaping law, in order to serve the egomaniac and Napoleonic complex of John Lewis, they must be blind indeed.

"THE MACON TELEGRAPH"

At a time when the country is looking to the Secretary of Labor to deal with such tough customers as John L. Lewis and Tom Girdler, Miss Perkins is not only miscast, she is impossible.

"THE MONTGOMERY ADVERTISER"

The Charlotte Observer laughs at warnings of fascist uprisings if governments continue to fail or decline to maintain order. There were Germans who laughed, too, in the pre-Hitler days—but they are not laughing now.

"THE NEWS" Lynchburg, Va.

The Wagner Act is generally held to be pro labor and virtually every one feels that it should be shorn of that bias. Experience under it argues overwhelmingly in favor of "equalizing" changes.

"DURHAM MORNING HERALD"

Postmaster General Farley may have his way, his wretched way, with respect to such public works and such patronage as might otherwise have gone to Senator McCarran of Nevada. But the nation will honor Senator McCarran for the courage he displayed in being willing to suffer political death rather than remain silent with respect to the "frightful" court-packing bill now before the Senate. And as to Postmaster General Farley—well, the nation will continue to regard him as a practical politician of a peculiarly coarse variety.

Washington's trend now, so far as the President and his Administration can direct it, is to centralize all power in Federal bureaus and agencies and convert the states into mere provinces.

"NORFOLK LEDGER-DISPATCH"

Throughout the Nation it has been observed that "the forgotten man" under the Wagner Labor Relations Act is not the worker, but the employer. Leaning backward to give labor organizations what they sought, the Roosevelt Administration apparently has ignored the rights of non-union and non-striking union workers and industrialists alike.

"SAN ANTONIO EXPRESS"

If there is to be created in this country a group of persons permanently dependent upon the federal government for food, clothing and shelter, a group separate and distinct from the army of federal officeholders, who will be at heart in sympathy with the relief clients, democracy may indeed be in danger. Control of these officeholders and relief clients will mean control of the government and the ability to perpetuate in office the master of this huge bureaucratic machine, whose tentacles extend to every part of the country.

"BEAUMONT ENTERPRISE"

Ballyhoo is an exclusive prerogative of the municipal ownership boys.

Of course, that is only ballyhoo. The facts are that if the consumers were saved almost a million dollars in electric rates, the taxpayers would have to pay the interest, depreciation and deficits of the municipal electric system.

"THE KNOXVILLE JOURNAL"

The instinct for democracy as against personal rule is all-powerful in this country. The people's distrust of power concentrated in one pair of hands is ineradicable and the man who gets such power in his hands, or even seems about to get it, is riding for a certain fall.

"AUGUSTA HERALD"

Seemingly the time has come for Mr. Roosevelt to choose—

Either John L. Lewis and his alien-accent "bohunk" hyphenates—

Or the Harvard-Yale "all-brains-and-no-sense" super "bookworms."

Or real Americans for all America.

No doubt, Mr. Roosevelt will make the proper choice—

The sooner, the better.

"MERIDIAN STAR"

There is a growing conviction among agricultural observers of Dallas County that the Black-Connery wages and hours bill marks the end of the honeymoon for the New Deal and the farmer.

"THE SELMA TIMES-JOURNAL"

Whatever reforms are required in either our social, industrial, legislative, or economic spheres, let them be wrought out inside of and by means of the terms of simple democracy—not by its annihilation!

"THE CHARLOTTE OBSERVER"

With a Senate majority in full revolt against this proposal, the rift in the Democratic party widens and doubt arises on the ability of the administration forces to drive through any considerable part of the must program, including the Black-Connery wage-and-hour bill, toward which even labor is now lukewarm, and the reorganization of the Federal Government structure.

"DALLAS MORNING NEWS"

The public is sick of the court issue. It is sick of the President's efforts to club Congress into doing something which it obviously doesn't want to do. Mr. Roosevelt has cried "wolf" once too often. His synthetic emergency failed to stampede the people, and Congress knows it.

"GALVESTON DAILY NEWS"

These huge expenditures for federal junketing are a vicious extravagance, the result of the orgiastic spending spree into which the national administration has fallen. They should be checked immediately and with a stern hand.

"ST. LOUIS GLOBE-DEMOCRAT"

The action of the New York Governor is striking evidence of the steadily crystallizing sentiment of the nation, both in and out of public life, in opposition to the revolutionary effort of the President to subordinate the judicial branch of government to the executive and thus to undermine one of the basic institutions of the republic.

"NASHVILLE BANNER"

If the constitution is outmoded; if there is need for changes to make it more flexible, it lies within the province of the people to make those changes by amendments. A change in the personnel of the supreme court to legalize and make constitutional these changes is unnecessary and certainly such procedure is neither democratic nor the fair way of setting up government and in administering the policies of government.

The supreme court must stand untarnished by political influence.

"COLUMBUS ENQUIRER"

Regardless of the merits in the Ford Company case these highly publicized hearings of public examiners at Detroit are an ominous reminder of the way government goes when it becomes a greater and stronger bureaucracy and more and more centralized.

"ARKANSAS GAZETTE"

If the Black-Connery bill becomes law, five men appointed by the President will rule industry in the United States. If they rule as required by that law, they will strike a death blow to southern industry in favor of the north and west. They will in effect complete a dictatorship, tyrannical in its power; usurping in its nature and fatal in its effects.

"STAR-NEWS", Wilmington, N. C.

Only the sincere votary of Mr. Roosevelt's amazing court fixing proposal will regret that this dynamic parent of a mid-summer madness has been sent to the congressional morgue. Loyal partisans who have fought as party men for something that was revolting to their conscience rejoice that a bone of contention has been cast aside.

"THE DAILY OKLAHOMAN"

**Contracts Awarded in the South in Millions of Dollars  
First Seven Months**

1935	276
1936	506
1937	507

## Industrial Building Contracts Rise

**General Construction This Year Ahead of the 1936 Seven-Months' Total, Although July Awards of \$77,759,000 Drop Below June and July, 1936**

**C**ONSTRUCTION awards of \$507,170,000 so far this year in the sixteen Southern states more than equal the total for the seven months of 1936 and for the similar period of all other years since 1930. July's total of \$77,759,000, for all construction, however, fell below the awards of both the preceding month and July of last year, although it was higher than any other July since 1930.

Industrial construction in July,

amounting to \$27,030,000, and the increase in private building, were largely responsible for maintaining the month's high level in the face of a decided decline in highway and bridge building.

This year has been a period of industrial and private construction. Industrial awards in the first seven months, amount to \$152,290,000, whereas for the same period of last year the total was \$137,000,000. The \$109,051,000 total in 1937 awards for private buildings is now \$45,000,000 ahead of private work placed under contract for the first seven months of last year.

Private building in July footed \$17,374,000. Gains were reported over the preceding month as apartment and hotel contracts rose to \$3,242,000, association and fraternal awards to \$336,000, bank and office buildings to \$2,925,000, dwellings to \$7,095,000, and store construction to \$3,332,000. Church work amounting to \$440,000, was the only type of private building that showed no increase over June.

Road building contracts in July were \$11,561,000. Proposed road work is estimated at \$39,078,000, the second lowest

monthly total of indicated road construction this year. July's drainage, dredging and irrigation total represented an increase over June's activity. Sewer and water works construction in July reached \$3,576,000, a total greater than that for other months of this year.

Tennessee's \$15,000,000 expansion of operations of the Aluminum Company of America was the largest announced for the South last month. This development, which is to require several years for completion, ranks with Alabama's \$31,000,000 development program of the Tennessee Coal, Iron and Railroad Co., and Maryland's \$35,000,000 Bethlehem Steel expansion at Sparrows Point, near Baltimore. Aluminum Company interests also will expand in Alabama, where the Aluminum Ore Co., a subsidiary, will build a \$4,000,000 ore reduction plant at Mobile. Republic Steel Corp. let contracts under the \$2,000,000 Alabama expansion of its Gulf States Steel division.

Three new paper and pulp mills proposed during the month, brought the total for new paper mills in the South since the Union Bag & Paper plant was

*(Continued on page 42)*

### Southern Construction Activity

	First Seven Months, 1937	First Seven Months, 1936	July, 1937	July, 1936
<b>GENERAL BUILDING</b>	<b>Contracts Awarded</b>	<b>Contracts Awarded</b>	<b>Contracts Awarded</b>	<b>Contracts Awarded</b>
Apartment and Hotels .....	\$21,650,000	\$16,592,000	\$3,242,000	\$2,655,000
Association and Fraternal .....	1,660,000	470,000	336,000	61,000
Bank and Office .....	7,954,000	3,063,000	2,925,000	1,018,000
Churches .....	2,573,000	1,877,000	444,000	358,000
Dwellings .....	54,071,000	33,137,000	7,095,000	12,623,000
Stores .....	21,163,000	9,047,000	3,332,000	2,710,000
	<b>\$109,051,000</b>	<b>\$64,096,000</b>	<b>\$17,374,000</b>	<b>\$18,395,000</b>
<b>PUBLIC BUILDINGS</b>				
City, County, Government and State .....	\$68,228,000	\$77,052,000	\$11,914,000	\$22,530,000
Schools .....	27,983,000	36,096,000	3,932,000	12,744,000
	<b>\$96,211,000</b>	<b>\$113,748,000</b>	<b>\$15,846,000</b>	<b>\$35,274,000</b>
<b>ROADS, STREETS, and PAVING</b>	<b>\$109,997,000</b>	<b>\$141,594,000</b>	<b>\$11,561,000</b>	<b>\$39,078,000</b>
<b>INDUSTRIAL and ENGINEERING</b>				
Drainage, Dredging and Irrigation .....	\$14,235,000	\$22,173,000	\$1,273,000	\$4,123,000
Filling Stations, Garages .....	4,156,000	2,891,000	1,079,000	1,835,000
Industrial Plants .....	152,290,000	136,948,000	27,030,000	94,051,000
Sewers, Waterworks .....	21,230,000	25,049,000	3,576,000	7,903,000
	<b>\$191,911,000</b>	<b>\$187,061,000</b>	<b>\$32,958,000</b>	<b>\$107,912,000</b>
<b>Total</b>	<b>\$507,170,000</b>	<b>\$506,199,000</b>	<b>\$77,759,000</b>	<b>\$196,842,000</b>



Carl G. Richmond Photo

## The COLONIAL Design Elevated Tank . . . for waterworks systems in Southern Cities

The Colonial-Design elevated tank is a logical type of structure to provide gravity water pressure in Southern municipal waterworks systems. It is pleasing in appearance and harmonizes architecturally with Southern structures.

The Colonial Design also provides maximum utilitarian value. The tank proper is shallow in depth, reducing the variation in pressure between the upper and lower water levels to a minimum.

The average head against which the pumps must operate is minimized, reducing operating costs. The elevated reserve to take care of peak loads permits pumping equipment to be operated at a uniform rate which also makes for economy.

The installation illustrated above is a 500,000-gal. tank at Decatur, Ga. We will appreciate the opportunity of discussing similar installations with municipal officials and waterworks engineers.

## CHICAGO BRIDGE & IRON COMPANY

Birmingham . . . . . 1530 North Fiftieth Street	New York . . . . . 3313-165 Broadway Bldg.	Philadelphia . . . . . 1619-1700 Walnut Street Bldg.
Dallas . . . . . 1408 Liberty Bank Bldg.	Cleveland . . . . . 2216 Rockefeller Bldg.	Detroit . . . . . 1510 Lafayette Bldg.
Houston . . . . . 2919 Main Street	Chicago . . . . . 2106 Old Colony Bldg.	Boston . . . . . 1510 Consolidated Gas Bldg.
Tulsa . . . . . 1611 Hunt Bldg.	San Francisco . . . . . 1040 Rialto Bldg.	Havana . . . . . Edificio Abreu 402

B-520

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PA.

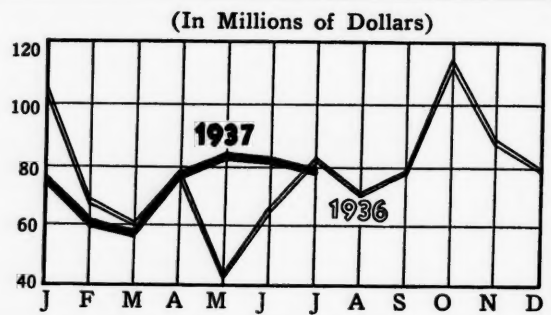


(Continued from page 40)

started at Savannah two years ago to \$97,000,000. The largest of the new project at Fernandina, Fla., by the Fernandina Pulp and Paper Co., a newly formed company backed by West Coast interests. Others were a \$2,500,000 pulp plant to be located near Wilmington, N. C., by Reigel Paper Co., of New York, and a \$1,000,000 mill proposed by the Orange Pulp and Paper Co., at Orange, Tex.

Gaylord Container Corp., Bogalusa, La., paper manufacturer, entered into an agreement under Louisiana's law for granting 10-year exemption from industrial property taxes to construct a \$400,000 addition.

Contracts  
Awarded  
by Months  
in the South,  
1936-1937



## Representative Projects in South Last Month

### Contracts Awarded

Ala., Gadsden—Republic Steel Corp., Open Hearth Building Extension; Nashville Bridge Co., Nashville, Contr. ....	\$150,000
Ala., Mobile—Meyerwood Compound Lumber Co. Plant; Agee and Kimbrough, Contrs. ....	125,000
Ark., Little Rock—Board of Public Affairs Filter Plant; Municipal Service Co., Kansas City, Mo., Contr. ....	223,000
D. C., Washington—District Commissioners Pumping Plant Improvements; Suburban Engineering Co., Contr. ....	567,000
D. C., Washington—District Commissioners School Addition; Jeffers-Dyer, Inc., Contr. ....	172,000
D. C., Washington—Treasury Dept. Government Printing Office; Great Lakes Construction Co., Chicago, Ill., (low bidder) ....	5,000,000
Fla., Jacksonville—St. Luke's Hospital Association Hospital Wing, S. S. Jacobs Construction Co., Contr. ....	100,000
Fla., Miami—Florida National Building Corp. Bank and Office Building; George A. Fuller Co., New York, Contr. ....	2,000,000
Fla., Miami—McKesson & Robbins, Inc. Office and Warehouse; Southeastern Construction Co., (low bidder) ....	156,000
Ga., Atlanta—Coca Cola Company Plant Addition; Van Winkle & Watkins, Contrs. ....	107,000
Ga., Atlanta—Evans Metal Co. Lead Plant; Smith-Pew Construction Co., Contr. ....	100,000
Ky., Lexington—University of Kentucky Biological Science Building; J. A. Jones Construction Co., Inc., Nashville, Tenn., (low bidder) ....	350,000
La., New Orleans—Charity Hospital Main Building; R. P. Farnsworth Co., Inc., foundation, George A. Fuller Co., Washington, superstructure contr. ....	6,608,000
La., New Orleans—Orleans Parish School Board School Bldg., Herman T. Makofsky, Contr. ....	148,000
Md., Carderock—Navy Department Ship Model Testing Plant; Coath & Goss, Chicago, (low bidders) ....	2,623,000
Mo., Kansas City—Sears Roebuck & Co. Air Conditioning Store; Vilter Manufacturing Co., Milwaukee Wis., Contr. ....	120,000
N. C., Charlotte—City Water Line and Pump Station; Blythe Bros. Co., Contr. ....	132,000
N. C., Charlotte—Myers Park Methodist Church Sunday School; Southeastern Construction Co., Contr. ....	100,000
N. C., Greensboro—North Elm Apartment Co. Apartment Bldg., Geo. W. Kane, Contr. ....	450,000
Okla., Muskogee—Treasury Dept. Post Office, Court House; Manhattan Construction Co., (low bidder) ....	206,000
S. C., Clinton—Lydia Cotton Mills Expansion Program ....	250,000
Tenn., Chattanooga—Alexian Brothers Hospital Remodeling; Foster-Creighton Co., Nashville (low bidder) ....	270,000
Tex., Abilene—City Water Works; Cage Brothers Construction Co. & J. C. Ruby, Bishop, Contrs. ....	230,000
Tex., San Benito—Hidalgo County Floodway Work; H. P. Zachary Co. and Chadwick & Williams, San Antonio, Contrs. ....	190,000
Va., Portsmouth—Southern States Co-Operative, Inc. Fertilizer Plant; Tidewater Construction Co., Norfolk, Contr. ....	300,000
Va., Richmond—Philip Morris & Co., Ltd., Inc. Tobacco Plant; Wise Contracting Co., Contr. ....	750,000
W. Va., Red House—Resettlement Administration School and Community Center; Goode Construction Co., Charlotte, N. C., Contr. ....	150,000

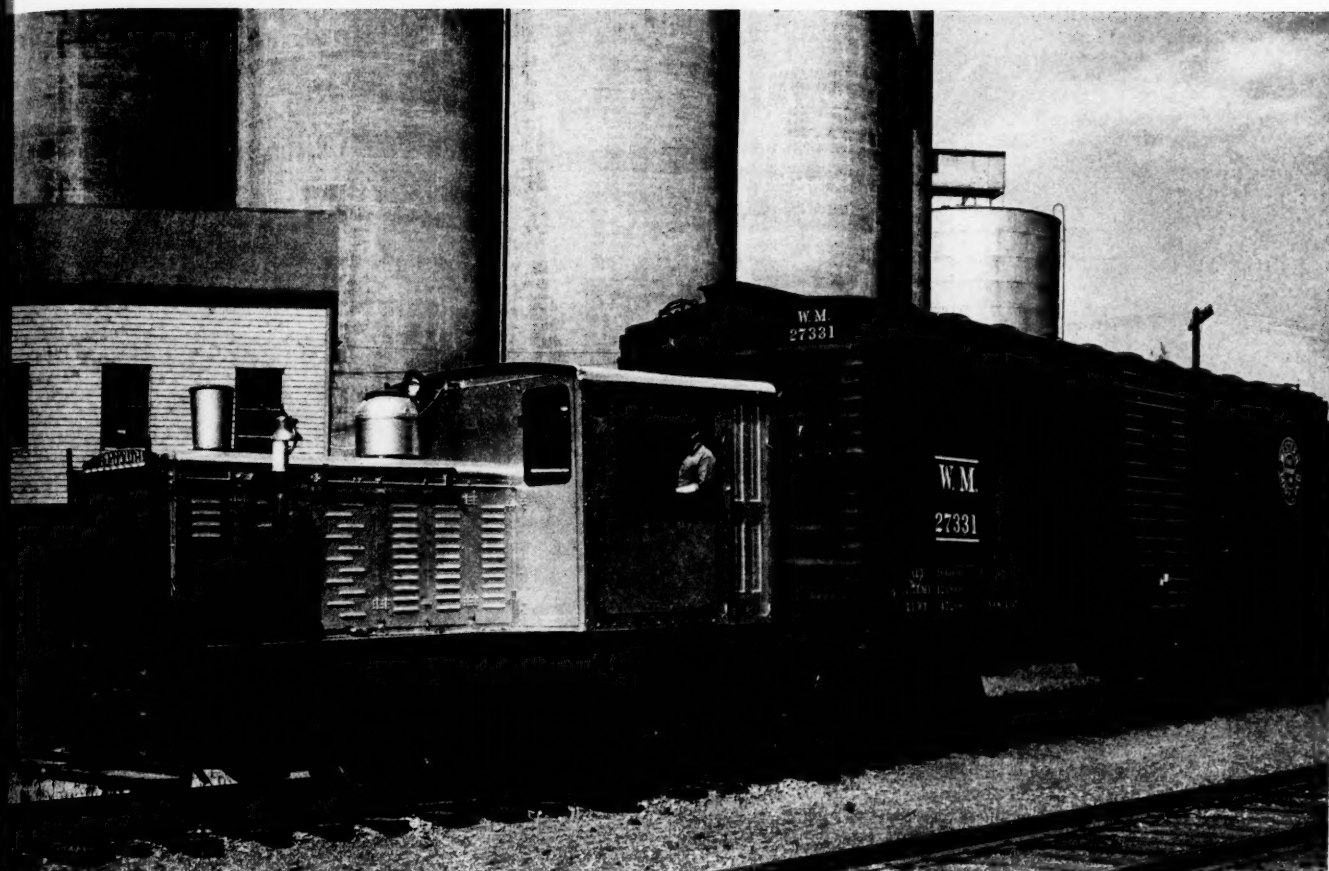
### Proposed Construction

Ark., Clarksville—Sunshine Coal Mining Co. Improvements; F. A. Shull, Terra Haute, Ind., Conslt. Engr., John Merck, Ch. Mech. Engr. ....	\$200,000
Ala., Mobile—Aluminum Ore Co. Smelting Plant ....	4,000,000

Ala., Carbon Hill—Galloway Coal Co. Coal Mine ....	300,000
Ala., Mobile—Standard Oil Co. Bulk Plant Expansion ....	250,000
Ark., Little Rock—Arkansas Amusement Corp. Theatres ....	190,000
D. C., Washington—Fernesque Homes Village, Inc. Park and Shop Center, Residential Communities ....	150,000
D. C., Washington—Brentwood Village Corp. Apartment Buildings; Raymond C. Snow, Archt. ....	800,000
D. C., Washington—Potomac Electric Power Corp. Garage and Shops Building ....	375,000
D. C., Washington—Willard Hotel Modernization ....	500,000
Fla., Fernandina—Ranier Pulp and Paper Co. Pulp and Paper Mill ....	6,000,000
Fla., Jacksonville—International Harvester Co. Warehouse and Office Building ....	300,000
Fla., Orlando—Orlando Utilities Commission Power Plant Improvements; Robert & Co., Inc., Atlanta, Engrs. ....	600,000
Ga., Atlanta—State Highway Board Post Road Construction ....	11,000,000
Ga., Macon—Herbert M. Block Office Building ....	400,000
Ga., Milledgeville—J. R. Matthews Hotel ....	100,000
Ga., Rome—City Waterworks; Robert & Co., Inc., Atlanta, Engrs. ....	240,000
Ga., Rome—Montgomery Ward & Co. Store Improvements ....	100,000
Ky., Fort Thomas—St. Thomas Roman Catholic Church Building; Edward J. Sulte, Archt., Cincinnati, Ohio ...	200,000
Ky., Frankfort—State Capitol Addition; Churchill & Associates, Lexington, Archts. ....	1,250,000
La., Baton Rouge—Board of Liquidation of State Debt State Office Building; Edward F. Neild, Shreveport, Archt. ....	1,047,000
La., Standard Oil Co. Pipe Line ....	1,500,000
La., Gaylord—Container Corp. Addition ....	400,000
La., Monroe—Memphis Natural Gas Co. Pipe Line Enlargement ....	600,000
La., Norco—Shell Petroleum Corp. Plant ....	750,000
La., Ruston—Arkansas-Louisiana Gas Co. Absorption Plant ....	300,000
Mo., Kirkwood—Treasury Dept. Marine Hospital ....	1,080,000
Mo., St. Louis—Board of Public Service Psychopathic Hospital; William B. Ittner, Inc., Archts. ...	1,500,000
N. C., Charlotte—C. & K. Operating Service, Inc. Auto Body Repair Plant ....	100,000
N. C., Salisbury—Salisbury Coca Cola Bottling Co. Plant ....	100,000
N. C., Wilmington—Riegel Paper Corp. Pulp Plant ....	2,500,000
Okla., Tulsa—City Overpass; M. C. Shibley, Engr. ....	175,000
Okla., Tulsa—Tulsa City Lines, Inc. Bus Storage Building ....	100,000
S. C., Georgetown—Georgetown County School Program; F. Arthur Hazard, Augusta, Ga., Archt., Robert S. Fiske, Atlanta, Ga., Conslt. Engr. ....	250,000
Tenn., Alcoa—Aluminum Company of America Expansion Program ....	15,000,000
Tenn., Chattanooga—Erlanger Hospital Addition; Schmidt, Garden & Erickson, Chicago, Archts. ....	1,090,000
Tex., Corpus Christi—Southwestern Bell Telephone Co. Extensions ....	130,000
Tex., Dallas—City Sanitary Sewer System; Hal Moseley, Engr. ....	1,300,000
Tex., Elsa—Engleman Gardens Citrus Association Packing Plant ....	100,000
Tex., Houston—Humble Oil & Refining Co. Casinghead Gasoline Plant ....	250,000
Tex., Lubbock—Texas Technological College Library; Wyatt C. Hedrick, Fort Worth, Archt. ....	225,000
Tex., Orange—Orange Pulp & Paper Co. Pulp Mill ....	1,000,000
Tex., Pasadena—Champion Paper & Fibre Co. Water Tunnel and Pipe Line ....	2,000,000
W. Va., Huntington—St. Mary's Hospital Addition; Meanor & Handloser, Huntington, Archts., Rev. Michael, Belmont Abbey, N. C., Conslt. Archt. ....	200,000



# SERVICE AND PERFORMANCE REACH HIGH PEAK



**Check PLYMOUTH'S  
Outstanding Record of  
Service for N.B.C. With  
Your Haulage Figures  
... THEN DECIDE!**

● If you're looking for an industrial locomotive that's as dependable as the day is long—just read these facts and figures gathered at the *National Milling Branch of National Biscuit Company*, Toledo, Ohio.

Here's a locomotive that's put through the paces from dawn to dawn, 24 hours a day. Eight cars per hour go to the car dumper and each time a car is moved the locomotive starts and stops *six times*. Yes, it's a true test for genuine de-

pendability yet, *in seven years*, the NBC Plymouth has been down only once.

Check Plymouth's record of performance and economical operation with your own haulage figures—you've a surprise coming.

#### **PLYMOUTH LOCOMOTIVE WORKS**

*(Division of The Fate-Root-Heath Co.)*

**PLYMOUTH**

**OHIO**



# PLYMOUTH

**GASOLINE • DIESEL • ELECTRIC • BUTANE • PROPANE  
INDUSTRIAL LOCOMOTIVES**

# IRON, STEEL AND METAL MARKET

**T**HE iron and steel industry resumed its upward rate of operation following the disturbances caused by the CIO agitation. Rising from 67 per cent of capacity the first week in July to over 84 per cent as the month closed, the industry is now 13 per cent more active than it was at the end of July, 1936, with the volume of business during the past month exceeding anticipations. The industry is expecting continued good demand as automobile makers will soon increase buying and foreign requirements remain heavy. Plate mills of the country are operating within 2 or 3 points of capacity and the outlook is most favorable. As a result of the general improvement in the labor situation, manufacturers of heavy machinery are encouraged by expectations of new business developing in the near future as many projects that have been deferred are soon to be undertaken.

## Steel Scrap Prices Rise

A feature of the past month was the several increases in the price of scrap. Lifting of the embargo which had been in effect since February at some ports helped to stimulate trade, and brought Pittsburgh prices to \$21.50 a ton and \$20 a ton at Chicago. Less than five weeks ago scrap was selling for \$18 a ton. The top of the market was reached in March at \$24 a ton.

## Birmingham Active

The rise in steel scrap stimulated the Birmingham steel activity, with the industry operating about 96 per cent of capacity. Nineteen open hearth and 18 blast furnaces are in operation. Indus-

trial production and employment is being maintained at the highest point in many years, surpassing the record of 1929. Some new business is in sight as the present backlog will probably be completed some time in August. The Tennessee Coal, Iron and Railroad's ingot production for the first half of the year exceeded by nearly 35 per cent the production of the first half of last year.

## Structural Steel Volume Up

Shipments of fabricated structural steel were larger during June and new orders booked were much larger in volume than the average this year, reports the American Institute of Steel Construction. Bookings amounted to 169,792 tons during June and shipments were 140,125 tons. The total shipments this year are above 769,000 tons and available volume for future fabrication at the end of June was 675,000 tons.

## Malleable Iron Castings

The production of malleable iron castings has increased during the past four years. Reports for the first half of 1937 show operations were 73 per cent of capacity or 16 points higher than for the corresponding period of 1936. The industry has reflected the general business improvement.

## Building More Railroad Locomotives

Railroad equipment buying has been increasing. More new railroad locomotives were shipped and more orders received during the first six months of 1937

than for the past several years. Shipments ending June numbered 185, including 165 steam and 16 Diesel-electric locomotives, as compared with 78 steam and 23 Diesel-electric for the entire year 1936 and 33 steam, 68 electric and 22 Diesel-electric in 1935. Unfilled orders for railroad locomotives during June numbered 372, including 285 steam, 26 electric and 20 Diesel-electric locomotives, as compared with 76 steam, 20 electric and 15 Diesel-electric in June 1936, and only one steam, 20 electric and 3 Diesel-electric locomotives on order June, 1935.

Ten thousand tons of 100-pound rail will replace lighter tracks on the Seaboard Air Line Railway between Monroe, N. C., and Atlanta, Ga., and between Columbia, S. C., and Savannah, Ga. The Birmingham district will furnish 5,200 tons and Steelton, 4,800 tons. J. L. Kirby, Norfolk, is chief engineer of maintenance of way for the Seaboard.

## Iron and Steel Exports

The highest post war monthly total exports of semi-finished and finished iron and steel products were reached in May. Foreign shipments were 405,810 tons valued at \$19,186,000 compared with 97,511 tons valued at \$7,387,000 in May, 1936. Sharp increases were registered in shipments of steel ingots and especially in pig iron.

## Steel Wages

Steel workers' average wages of \$36.20 are \$10 more per week than the wages of workers in other manufacturing industries and the average weekly earnings of steel employees were only exceeded by the earnings of the workers in the printing of newspapers and periodicals. Since 1935, the hourly wages of the steel industry have been raised five times and are now the highest on record. Steel prices have lagged far behind the rise in the industry's wages since 1933, which are 62 per cent above that year. With more than 38¼ cents of each dollar received by the steel industry going into payrolls, labor's share of the 1936 steel dollar is equal to the 1929 figure. Cost of materials purchased, which also includes wages paid in their production, and other expenses incurred by the steel industry amounted to 43½ cents out of each dollar. Dividend payments amount to 4½ cents and tax payments were 4½ cents out of each dollar received.

## Life of Steel More Than Doubled in 50 Years

The American Iron and Steel Institute is authority for the statement that while 50 years ago the life of steel products averaged only about 15 years, it has increased until today the average life is 33½ years. This has been due to improvement in manufacture, fabrication and preservation, as well as the fact that in many of the new uses for steel its life is naturally longer, such as in skyscrapers.

# PROMPT DELIVERIES FROM STOCK (Standard Sizes)



## ORIOLE GALVANIZED STEEL SHEETS

Flat-Corrugated-Roofing

**THE EASTERN ROLLING MILL CO.**

BALTIMORE, MARYLAND

District Office, Petroleum Bldg., Houston, Tex.



## Steel on Exhibition

As a part of its Centennial Program, the City of Fort Worth, Texas, built this magnificent coliseum for exhibition purposes and general community use. This building is 232 feet by 405 feet with a clear unobstructed width inside of 217 feet.

Wyatt C. Hedrick and Elmer G. Withers Architectural Co. of Fort Worth were associated engineers and architects.

James T. Taylor, Fort Worth, General Contractor.

Steelwork by Virginia Bridge.

**M**OST of the notable structures of today have been made possible and practical through Steel Construction. For Steel is the most adaptable and dependable of all structural materials. Our organization and facilities have been active in Steel Building for over forty years.

### VIRGINIA BRIDGE COMPANY

Roanoke      Birmingham      Memphis      Atlanta

New York      Dallas      El Paso

Plants at Roanoke, Birmingham, Memphis.

*Steel Structures*

# VIRGINIA BRIDGE

AUGUST NINETEEN THIRTY-SEVEN



# LUMBER NEWS

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## OF THE MONTH

### Lumber Orders Increasing

Lumber orders and shipments have been increasing in recent weeks.

As reported by the Southern Pine Association, lumber orders for the week ending July 24 amounted to 33,819,000 feet, an increase of about 9 per cent over the preceding week and 20 per cent above the corresponding week of last year. The previous week showed a gain of 24 per cent in orders over the week ending July 10 and 9 per cent over the corresponding week of 1936.

Shipments of 30,683,000 feet during the week ending July 24 were 5 per cent above the preceding week and 3 per cent above the corresponding week of last year.

Production for the week ended July 24 was 31,840,000 feet which was a decrease of 2 per cent from the week before but an increase of 2 per cent over the corresponding week of 1936.

Orders on hand July 24 amounted to 71,051,000 feet and total stocks were 409,776,000 feet, or 5 per cent above July 24, 1936.

### Wooden Observation Towers

Timber construction, employing modern connectors for joints, is being used to an increasing extent, not only by private builders but by the U. S. Forest Service for towers, according to the Timber Engineering Company, subsidiary of the National Lumber Manufacturers Association.

### Prefabricated Houses of Wood

Prefabricated wooden houses adaptable to mass production are practicable, according to experiments by the Forest Products Laboratory, Madison, Wis. Experimental houses are built up of prefabricated wood panels 3 to 4 feet wide and up to 15 feet long. Plywood sheets forming the panel faces glued as in aircraft construction with moisture resisting glue to both sides of the frame are strong, rigid, and light and carry a part of the load instead of being an additional load on the supports, as in ordinary construction. In this way, the frame can be lightened without sacrificing strength or rigidity. Joists, for instance, have been reduced in height from the conventional 10 inches to 6 inches.

Outer wall panels, using the strength of the exterior and interior plywood, are 2 to 3 inches thick instead of the customary wall thickness of 6 to 8 inches. Uprights with double grooves hold the edges of the inner and outer plywood. All panels are insulated; the wall, roof, and lower floor panels primarily against heat and cold, and the partitions and floor panels between stories against

sound. All electrical wiring and outlets can be built into the units. Quick and ready assembly on the building site is the goal.

Use of standard parts do not mean that houses must be identical in design and appearance. Widely different designs can be built with the same standard panels with few minor changes.

### Build 3-Story Factory Addition 96x86 Feet in 17 Days

#### Plywood Exterior Speeds Construction

By using large fir plywood panels for the exterior as well as for walls, partitions and floors inside, a 3-story 96x86 foot factory addition and warehouse was built in Seattle recently in 17 working days, from foundation laying to occupancy. The speed made possible through the use of 4 x 8 foot panels accounted for the saving of 30 per cent in time on the exterior and at least 50 per cent on the interior, stated Walter Lawshe, chief engineer for the project. Plywood for exteriors has become one of the accepted materials since the bonding of the plies with hot press and resin has become generally adapted.

### South's Timber Supply Increasing

The timber supply of the South has steadily increased until today we are growing more timber than we cut, and the supply is much larger than it was 10, 20, or even 30 years ago, writes T. H. Alexander in the Memphis Commercial Appeal.

In the Coastal plain pine growing area are 80,000,000 acres skirting the South Atlantic and Gulf coasts, 70 per cent of which is still forested, as estimated by the Government's recent inventory of the growing stock of timber in that region. North of this coastal plain, a region containing most of the cotton and corn land of the lower South, are 91,000,000 acres liberally sprinkled with forests of loblolly and shortleaf pine mixed with hardwood. It is estimated that the forest growth represents 55 per cent of the total area. The Mississippi Delta region of 32,000,000 acres has 42 per cent in timber.

### Timber Volume and Area West of Mississippi River

The volume of timber for each of the survey units in the pine-hardwood region west of the Mississippi River has been compiled in report No. 26 issued by I. F. Eldredge, Regional Survey Director, of the Southern Forest Experiment Station, New Orleans. Also, is listed the forest area for each unit, classified according to forest condition and type group.

### Southern Lumbermen Discuss Wage and Hour Legislation

A series of district meetings sponsored by the Southern Pine Association, New Orleans, was held throughout the South during July to acquaint lumbermen with the true nature of the Black-Connery wage and hour legislation and the harm it will do to the entire South. Members of farm and commercial organizations, business men and merchants were invited to attend and participate in the discussions.

### Demonstration Home Features Hardwood Construction

Featuring all-wood construction, both exterior and interior, the model home built by the Southern Hardwood Producers, Inc., New Orleans, in the Hedge-moor Subdivision, Memphis, Tenn., demonstrates the application of various species of Southern hardwoods for interiors of residences. Characterized as "The Hardwood Home," it has been built primarily to show the beauty, comfort and permanence of Southern hardwoods for interiors and the different ways in which they may be effectively used. In design the house is a modified Colonial type, modern in both style and arrangement.

The model house is distinctly "dry-built," the interior walls and ceilings being covered with Southern hardwoods, no plaster being used on any of the walls. All ceilings are of hardwood plywood in varying pattern designs, some painted and some showing the natural beauty of the wood.

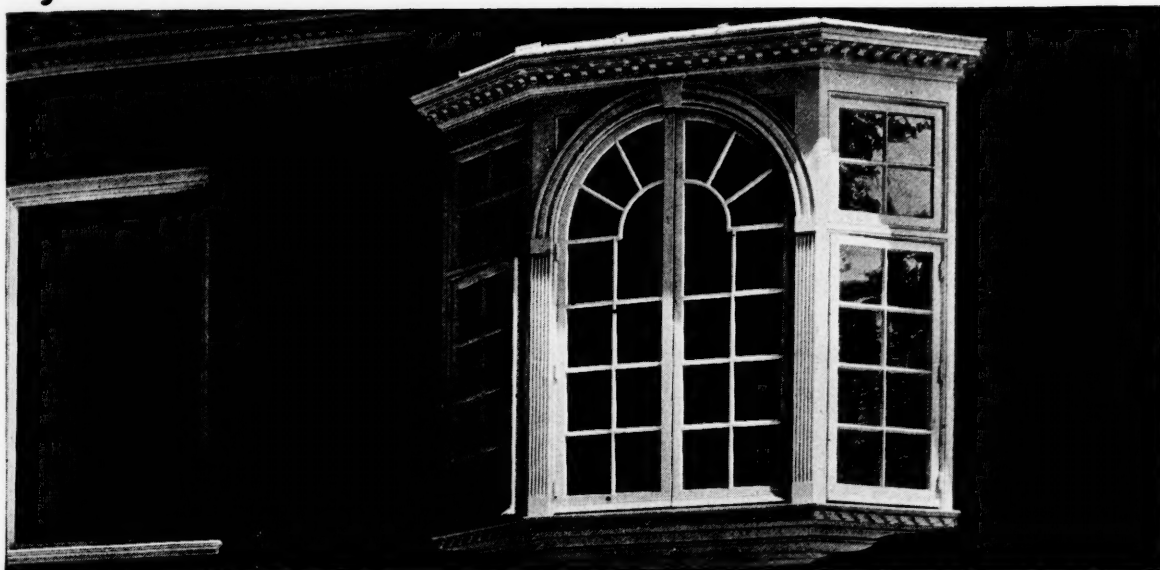
The living room has walls covered with wide red oak boards laid horizontally, heavy under-cut grooves or beads separating each board. All doors and interior trim are of oak and the floor is of quartered white oak in narrow strips. The dining alcove has walls of ribbon stripe gum with ash trim and the kitchen walls are of magnolia, the boards of the wall being placed vertically with V-joints.

One of the bedrooms is finished in red gum and the floor is of red beech. In a second bedroom the floors are oak and a third bedroom has walls of sycamore and the floor is quartered white oak.

The hallway between the bedrooms and leading to the bathrooms is of ash, left in natural blonde color.

The service porch in the rear is finished with magnolia panels to match the kitchen finish and trim. All cabinets in the kitchen also are built of magnolia. The walls of all the closets are covered with hardwood panels painted in light colors.

The variety in grain, figures and color tones of the several species of Southern hardwoods used in the various rooms makes for an unusually attractive interior. Doors and window sash and frames in each room are of the same wood as is used to cover the walls.



Use **Pennvernion** .. not just window glass

**THE FOURTH IN A SERIES OF INTERESTING WINDOW TREATMENTS**  
**Architect . . . The late Pliney Rogers**

For greatest utility and beauty, the window glass with which a window opening is glazed should have the following qualities: Clarity. Freedom from distorting defects. Brilliance of finish . . . on both sides of the sheet. Accurate reflection. And a dense, abrasion-resistant surface texture. Pennvernion Window Glass possesses these essential characteristics of quality glass to an unusually high degree.

*Pitt.* **PITTSBURGH.** *Glass*  
**PLATE GLASS COMPANY**

# GOOD ROADS AND MOTOR TRANSPORT

## One-Third of Rural Primary Road Surfacing Built in the South Last Year

**R**URAL primary State road surfacing built in the United States last year amounted to 23,885 miles, of which 7,859 miles were in the South. High type surfaces at the end of the year in the South amounted to 39,450 miles, 35 per cent of the country's total, and low type surfaces at the end of the year in the South were 71,459 miles, or 47 per cent of the country's total.

The designated rural State systems under State Highway Departments in the United States include 340,160 miles of which 133,717 miles, or 39 per cent, are in the Southern States. The surfaced portion of the South amounts to 110,909 miles, or 83 per cent, as compared with 289,103 miles, or 85 per cent, for the entire country.

At the end of 1936 the existing surfaces on rural primary State roads were as follows:

	Miles
Brick and other block types .....	2,898
Portland cement concrete .....	81,283
Bituminous concrete and sheet asphalt .....	15,100
Bituminous macadam .....	14,232
Low-cost bituminous mix .....	33,805
Waterbound macadam .....	20,281
Gravel and similar surfaces .....	103,958
Sand-clay, top soil, etc. ....	17,364
Timber bridge floors .....	182
Total .....	289,103

Bituminous treatments have been applied to 17,743 miles of waterbound macadam, 39,177 miles of gravel and 8,918 miles of sand-clay and topsoil roads.

Subdivided according to class of roads, 23,885 miles of rural primary State roads were surfaced, 614 miles of urban extensions of State systems, and surfaces were placed on 4,414 miles of secondary road under State control in the 14 states having State administration of local roads.

For every mile of surfacing placed on an earth road 2 miles of new surfacing was placed on old surfaced roads. A large part of the resurfacing consisted of replacement with higher types.

## Road Oil Sales Gain 21 Per Cent

Increased construction of the lighter types of highway resulted in an increase of 21 per cent in the sales of road oil by petroleum refineries in the United States, from 6,798,932 barrels in 1935 to 8,256,694 barrels in 1936, according to the Bureau of Mines. However, if the sales of road oil are taken in connection with sales of cut-back asphalts, paving flux, and emulsified asphalts, a larger proportionate increase 30 per cent was registered in the total sales of liquid and semiliquid asphalts for highway construction, from 12,316,545 barrels in 1935 to 16,052,833 barrels in 1936.

The principal increase in road oil sales took place in California, in northern Louisiana and Arkansas, in the Gulf Coast of Texas, and in the Oklahoma-Kansas-Missouri district. In the Oklahoma-Kansas-Missouri district, an increase of 173,725 barrels in sales of road oil was exceeded by the increase of 382,729 barrels in sales of cut-back asphalts. In northern Louisiana and Arkansas, an increase of 121,265 barrels in sales of road oil was accompanied by an increase of 40,766 barrels in sales of cut-back asphalts. No sales of cut-back asphalts were reported from the Texas Gulf Coast where sales of road oil increased 276,692 barrels from 1935 to 1936. A decrease of 49,223 barrels in sales of road oil by refineries of the Gulf Coast of Louisiana was more than offset by an increase of 212,168 barrels in sales of cut-back asphalts and the Indiana-Illinois-Kentucky district increased its cut-back asphalt sales 267,630 barrels.

## Asphalt Demand Highest in 1936

South's Production 1,200,000 Tons

Asphalt demand in 1936 established a new record, exceeding the consumption in the previous peak years, 1927 and 1929. To meet the increased demand, domestic and foreign, petroleum refineries enlarged their output of asphalt from 3,287,000 tons in 1935 to 4,065,000 tons in 1936, according to the Bureau of Mines. Production in the South was in excess of 1,200,000 tons. Stocks of asphalt held by petroleum refineries in the United States were reduced from 429,739 tons December 31, 1935, to 364,199 tons December 31, 1936. Domestic demand for asphalt increased from 3,027,648 tons in 1935 to 3,962,257 tons in 1936.

## Texas' Longest Sodium Safety Lighting Installation

The longest installation of sodium safety lighting in Texas is now in operation along the new Poplar-Beckham overpass on the Dallas-Tyler highway at Tyler. Dedication of the new lighting and the overpass took place recently. Twenty-five new General Electric luminaries, equipped with 10,000-lumen sodium lamps, provide long-range seeing conditions at night for the protection and convenience of motorists and pedestrians. The Texas Power and Light Company made the installation for the City of Tyler, which will maintain the units. Decision to use the units was made by the City's Commission after a visit to the first sodium installation in Texas, at Kerrville.

## Truck License Agreement

Motor vehicle tax authorities of Mississippi, Alabama, Tennessee and Alabama have reached an agreement that will lead to the lifting of the ban upon trucks hauling agricultural products from farm to market in interstate commerce. This agreement is a start toward allowing the free movement of farm trucks from one state into another and it is likely that the legislatures of the four states affected will enact motor vehicle laws that can be administered with greater fairness to all concerned.

## Urges Ban on Road Funds Diversion

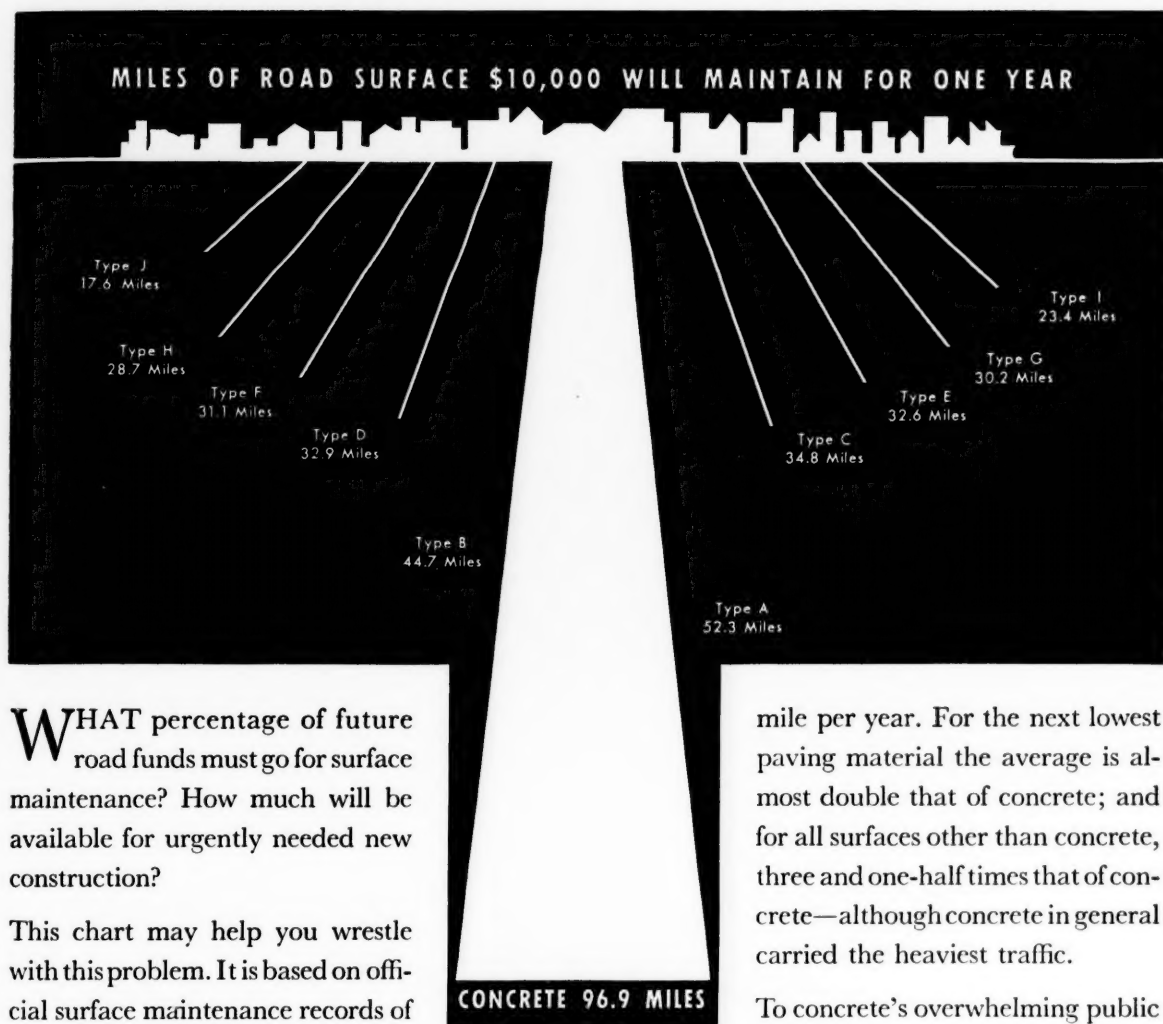
A constitutional amendment to prevent the misuse of gasoline and other automotive tax receipts for purposes other than highway financing is advocated by T. H. Cutler, State Highway Engineer of Virginia. According to the latest annual report of the State Department of Revenue, motorists pay 68 per cent of the total taxes collected by Virginia.

### CONDITION OF IMPROVEMENT OF RURAL PRIMARY STATE HIGHWAYS IN THE SOUTH, 1936

States	Mileage in Rural Primary State System	Surfacing Built in Year	High-Type Surfaces		Low-Type Surfaces	
			at end of Year	at end of Year	at end of Year	at end of Year
Alabama .....	6,256	679	1,217	2,928		
Arkansas .....	8,996	257	1,738	6,458		
Florida .....	11,935	177	1,173	6,105		
Georgia .....	9,792	804	2,496	3,246		
Kentucky .....	8,720	475	1,742	6,096		
Louisiana .....	4,448	273	2,243	2,158		
Maryland .....	3,929	79	2,111	1,818		
Mississippi .....	3,929	241	767	2,973		
Missouri .....	8,167	423	3,880	4,159		
North Carolina .....	10,875	442	3,909	6,215		
Oklahoma .....	8,234	1,314	2,884	3,829		
South Carolina .....	6,411	193	2,387	3,356		
Tennessee .....	7,181	192	2,787	3,989		
Texas .....	20,953	1,629	6,365	9,470		
Virginia .....	9,225	289	1,510	6,721		
West Virginia .....	4,666	392	2,241	1,938		
Total .....	133,717	7,859	39,450	71,459		
United States .....	340,160	23,885	113,695	175,408		



# How much for Maintenance?



**W**HAT percentage of future road funds must go for surface maintenance? How much will be available for urgently needed new construction?

This chart may help you wrestle with this problem. It is based on official surface maintenance records of 21 state highway departments. It represents the most complete study of its kind ever made. No selection or exclusion of data. Covers maintenance periods ranging from 2 to 16 consecutive years and averaging 9—135,000 miles of state highways, or nearly half the surface mileage of state trunk systems, under all conditions of traffic, subgrade and climate.

The answer is clear, conclusive! Surface maintenance costs for concrete average \$103.17 per  
AUGUST NINETEEN THIRTY-SEVEN

mile per year. For the next lowest paving material the average is almost double that of concrete; and for all surfaces other than concrete, three and one-half times that of concrete—although concrete in general carried the heaviest traffic.

To concrete's overwhelming public preference . . . to its greater load-carrying capacity per dollar of first cost . . . to the safety advantages of its non-skid, highly visible surface . . . add this record of maintenance economy as one more reason for building your roads of concrete. Send for detailed report, "Road Surface Maintenance Costs from 21 States."

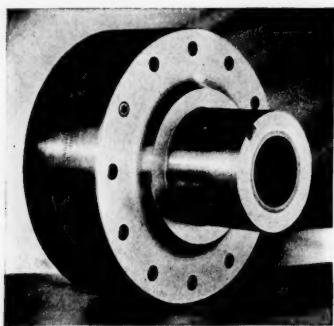
## PORTLAND CEMENT ASSOCIATION

Dept. 8-21, 33 W. Grand Ave., Chicago, Ill.

# NEW WAYS OF DOING THINGS

## Free-Wheeling Clutches

Through a bulletin recently issued by the Hilliard Corporation, Elmira, N. Y., manufacturers of the Hilliard Over-Running Clutch, engineering drawings and photographs of installations demonstrate numerous applications of over-running or "free-wheeling" clutches. On production machinery which runs intermittently or with reciprocal motion, the clutch transmits power efficiently through the operating cycle, then automatically disconnects and idles until power is again applied. The unit is also used on dual drives to protect the prime mover which is not in immediate use and to transmit power from the other; also to control two-speed drives.



Hilliard Over-Running Clutch.

## Anti-Friction Bearing Taper Attachment

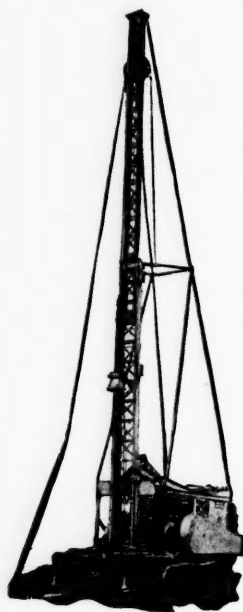
Announcing a major improvement in taper attachments for lathes, The Monarch Machine Tool Company, Sidney, Ohio, is furnishing Taper Attachments equipped with permanent oil-seal bearings—twenty in all. Under severe tests they have shown significant advantages over ordinary taper attachments, such as the removal of friction, preventing backlash, elimination of wear, ending lost motion, and largely increasing taper turning capacity.

Ball bearing taper attachment threading oil tool joints.



## Blast-Hole Drill

Newest in the Bucyrus-Armstrong line



of blast-hole drills, Model 27-T introduced by Bucyrus-Erie Company, South Milwaukee, Wis., is most modern in design and construction, weighing 18,400 pounds, with a tool capacity of 2000 pounds. So insistent has been the demand for a modern drill of this size and capacity that a number of these machines have already been shipped for use by large mine and quarry blast-hole drill operators. Many outstanding features are incorporated in the 27-T.

## Alligator "V" Belt Fasteners

Making practicable the installation, shortening or replacement of "V" belts on the job without delays or the necessity of



V-Belt Fastener.

tearing down expensive installations, a new fastener for joining "C" Section "V" Belts of fabric core, cross weave construction, has been announced by the Flexible Steel Lacing Company of Chicago. Unique features of the Alligator "V" Belt Fastener are the double rock or pin supported in bronze bushings and the method of holding the end plate to the belt end without materially weakening the belt or bulging its sides.

## Spring Making Machinery

Introducing a new line of spring making machinery, Torrington Manufacturing Company, Torrington, Conn., points out that these machines have been designed to meet requirements of the professional spring maker, and calls particular attention to their exceptionally rugged construction. This line of machinery consists of three types: segments, clutch, and torsion.

## All-Steel-Equip Group Locker

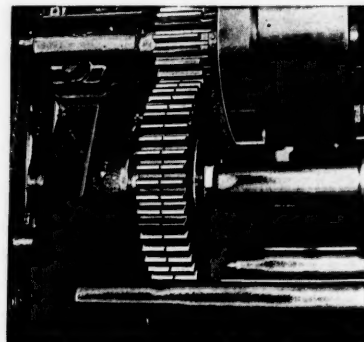
Accommodating 16 persons in approximately one-half square foot of floor space per person, a new steel group locker has been made commercially available by the All-Steel-Equip Company of Aurora, Ill. It is called the A-S-E Unit Robe, and is made up of box locker units 12 inches wide, 12 inches high by 18 inches deep assembled in two vertical columns of six units each, connected across the top by a horizontal section of four units. It is adaptable for service in many types of buildings.

## Inspector's Lantern

Designed for use by railroads, municipalities and associated industries, a new carbide lantern is announced by National Carbide Corporation, New York, N. Y. This ideal lightweight lantern is the result of many years' manufacturing experience and study of field conditions. It is equipped with a safety flame protector, heat resisting glass lens and porcelain burner tips. Additional features include an insulated handle to protect the workman against any exposed electric equipment and positive water feed control.

## Celoron Silent Gears

Manufactured by impregnating sheets of woven fabric such as cotton duck or linen with a synthetic resin, super-imposing one sheet upon another until the required thickness is attained and then subjecting the entire mass to accurately controlled pressure and heat in powerful hydraulic presses, the combination of heat and pressure fusing the sheets into a solid compact material of unusual strength, toughness and resiliency, Celoron is claimed to combine all properties necessary for successful performance and easy fabrication of a Silent Gear. The subject of Celoron Silent Gears, a product of the Continental Diamond Fibre Company, Newark, Del., is fully treated in a bulletin issued by the company.

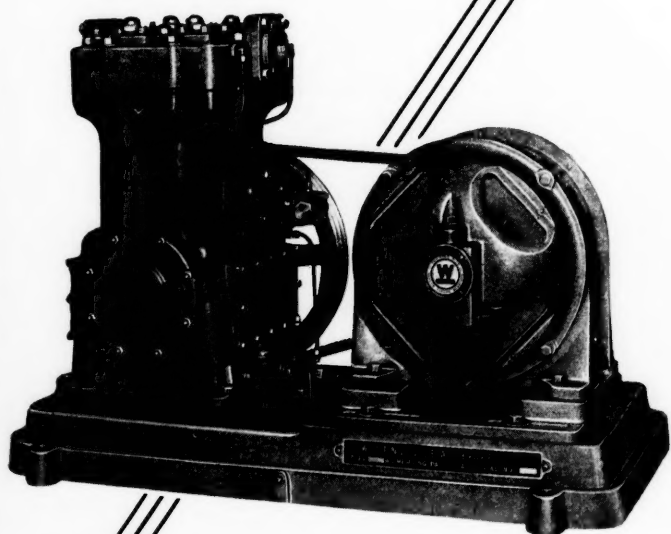
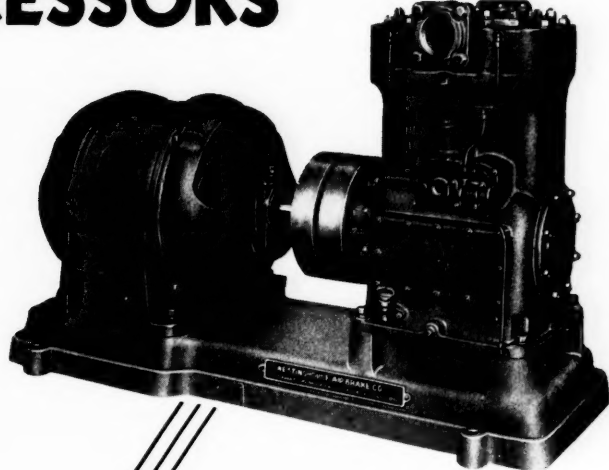


Celoron Gears on Power Press.

(Continued on page 52)

# Announcing a NEW Line of AIR COMPRESSORS TYPE "Z" » »

*T*WO cylinder, single stage moderate speed, water-cooled type for continuous operation against pressures up to 125 pounds . . . Its lubricating system is of the pressure type, and interlocked with a positive unloader so that no air can be compressed if oil supply is low . . . It has quiet, efficient disc valves, and crank shaft is mounted on ball bearings.



Furnished with or without coupling, or as a complete belt or direct connected motor driven unit, mounted on a bed plate. Available in sizes ranging from 46 to 157 cu. ft. displacement. Greater displacements up to 314 cu. ft. may be had by a combination of two compressors, with a double fly wheel, driven by one motor . . . These compressors are compact, efficient, and durable. Long trouble-free service is assured. » » » » »

## WESTINGHOUSE AIR BRAKE CO.

**Industrial Division**

**Pittsburgh, Pa.**

AUGUST NINETEEN THIRTY-SEVEN



# NEW WAYS OF DOING THINGS

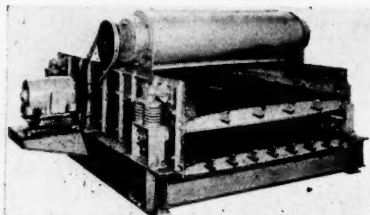
(Continued from page 50)

## Air-Drying Lacquer Enamel

Capable of finishing wood, fiber, wall board, cardboard, pressed paper and other materials with a surface resembling slate, a new air-drying lacquer enamel has been developed by Maas and Waldstein Company, New York, N. Y. It is known as "Slatite" and is being used for the production of toy blackboards and slates, and also for inexpensive lightweight and portable blackboards for schools, colleges, lecture rooms, engineering and business offices and stores.

## Robins ELIPTEX Screens

Robins ELIPTEX Screen, a 1937 product of Robins Conveying Belt Company, New York, N. Y., is fully described and illustrated in Bulletin No. 99-A issued by the company. This new horizontal screen carries the name ELIPTEX because of the elliptical orbit of the screen's motion, the greatest advancement, it is claimed, in horizontal screen design. It is simple in design, of rugged construction, smooth and quiet in operation, and operates at low cost. Other advantages claimed for it are sharp sizing, high capacity, pleasing appearance, freedom from blinding and continuous horizontal feeding action.



Double Deck Eliptex Screen.

## Elliott Fisher Universal Accounting Machine

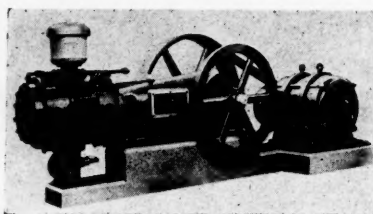
To provide all necessary records required by the Social Security legislation, including employees' pay checks (or envelopes), employees' earnings records, and payrolls in a single operation, the Underwood Elliott Fisher Company, New York,



N. Y., directs attention to its Universal Accounting Machine, designed and constructed in line with modern methods and requirements.

## Gardner-Denver Improved Compressor

An improved single stage, horizontal air compressor for heavy-duty full load service and continuous operation at low power cost, is announced by The Gardner-Denver Company, Quincy, Ill. It is known



Gardner-Denver Single Stage Compressor.

as the "RX" Compressor, of totally enclosed dust-proof construction, without sacrifice of accessibility, as well as accurate balance and freedom from vibration. Important features are its Electro-Pneumatic Control and Timkin Tapered Adjustable Main Bearings.

## Mercury Vapor Rectifier Tube

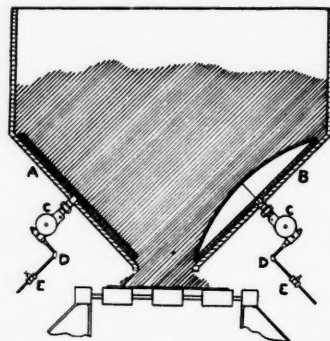
Known as Type 2-RA-15, a new mercury vapor rectifier tube has been announced by The Continental Electric Company of Geneva, Ill. It is designed for low voltage applications such as projector arcs, arc welders, etc., the manufacturer guaranteeing 2000 hours of life for the tube when used within limits prescribed.



## Acme Steel Colored Stapling Wire

Stapling wire of almost every color is now being made on order by Acme Steel Company, Chicago, one of the country's largest producers of wire for stapling purposes. The new product is known as "Colorstitch" and is available in colors that will blend or contrast with plain or printed cartons. It is made in all standard stapling wire sizes and has the same rust-resisting qualities as "Silverstitch," Acme's galvanized stapling wire.

## Feeding Fine Material From Bins



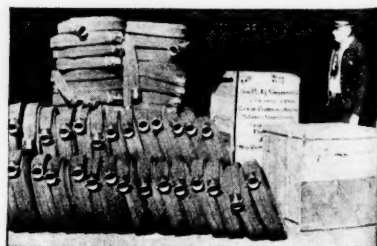
Cross Section of Pneubin Operation in a V-Bottom Bin

A: deflated panel. B: inflated panel. CC: control valves. DD: air line. EE: shut-off valves.

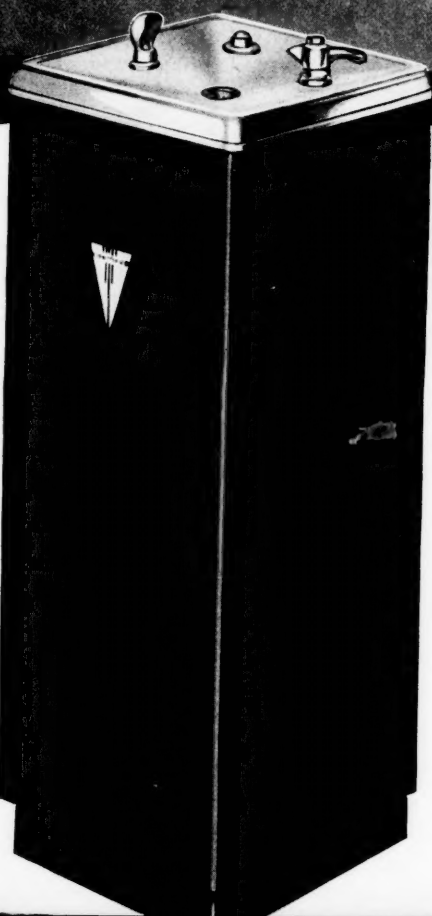
The problem of feeding finely divided material from storage into process, where sticking or bridging of the material in bins and chutes is apt to occur, is claimed to have been simplified by the use of the "Pneubin," a development of Tainton Products, Ltd., Baltimore. A Pneubin installation consists essentially of one or more steel panels, each covered with very tough rubber attached at the edges. The panels are covered with a special rubber made and applied by The B. F. Goodrich Company and known as Armortite. Attachment to the metal plate at the edges is made by the Vulcalock process, giving a strength of 600 pounds to the square inch. The air valve is specially designed and made of corrosion-resisting materials to meet severe operating conditions. The unit is placed on the sloping bottom of a bin or chute, with the rubber upwards. Air from a plant line controlled by a special valve is admitted between the rubber and the steel, causing the rubber to inflate a predetermined amount, after which the air is exhausted. Pneubin panels in a bin agitate and break up a charge, prevent the formation of arches across the converging sides, thus providing a constantly moving surface where no material can rest.

## For Preventing Silicosis

To combat the industrial lung disease known as Silicosis, United States Rubber Products, Inc., New York, N. Y., has designed new blower and dust suction hoses to meet practically every known conveying condition. Dust Hose, P-5508, (for abrasives) is designed for either suction or light pressure, such as that generated by a blower, the carcass of the hose being supported by a steel wire helix, and is finished with outside corrugations. Blower Hose, P-5509, (for fumes only) is similar to the dust-conveying hose.



# FREEZE-PROOF! EXPLOSION-PROOF!



**Y**ES, there's a special Westinghouse Water Cooler for service where ordinary coolers would freeze up and burst. And another special explosion-proof model with all electrical mechanism safely sealed away from explosive gases, vapors or dust.

These special models are added proof that Westinghouse knows the water cooling business, provides equipment to meet *your* requirements, no matter how exacting they may be. Here are a few of the sound engineering reasons:

- Hermetically-sealed units . . . lifetime lubrication
- Air-cooled or water-cooled mechanism
- Freon refrigerant . . . temperature selectors
- Non-clogging drains . . . sanitary bubblers
- Improved dual-action evaporators
- Brushless motors that don't burn out
- Westinghouse 5-year Protection Plan

For the most trustworthy, the most economical water cooling equipment to meet your exact needs, see your local dealer, or write to Department 789, Westinghouse Electric & Manufacturing Company, Mansfield, Ohio.

**Westinghouse**   
*Hermetically-Sealed*  
**WATER COOLERS**

**REMEMBER . . .  
WESTINGHOUSE GIVES YOU  
BOTH HERMETICALLY-  
SEALED UNITS AND THE  
5-YEAR PROTECTION PLAN**



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Merely wishing won't bring them. Start today! Take the road to more profits by selling ACI Quality Coals, if you are a retail coal merchant; by using these coals, which Nature endowed with many plus factors, if you are a user of industrial fuel.

Mined in the high volatile fields of Kentucky, Tennessee, Virginia and West Virginia, ACI Quality Coals offer a range of bituminous grades . . . each inherently pure . . . each the standard of its class.

And backing every ACI Quality Coal is one of the finest service organizations in the country. ACI engineering and merchandising facilities are ready to help solve any coal utilization problem.

Sooner or later you'll find that more profits come from selling, or using, coals priced according to their true value. Why delay? Write today for your copy of "Where to Buy ACI Quality Coals."

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## FINANCIAL NEWS

### Better Railroad Showing

The improvement in railroad earnings has continued during the first half of 1937. The B. & O. increased its net operating income 13.6 per cent, and this notwithstanding larger outlays for maintenance and transportation expenses.

Other Class I systems show increases of gratifying amounts. In the period named these roads installed over 34,000 new freight cars, the largest number for any single period since 1930. This was in addition to 166 new steam locomotives, and 20 new electric and Diesel engines. Orders waiting to be filled for freight cars are greater than for any comparative date since 1924, while new steam locomotives which have been ordered and not yet supplied amount to 301, compared with 67 on order a year ago, and 6 on order two years ago.

The railroads' efforts to compete with other forms of transportation are being successfully carried out. As has been stated before, the improvements inaugurated for passenger comfort not only mark a distinct advance in transportation practice, but make an appeal that is having its effect at the ticket office. After all, railroads remain the outstanding means of passenger and freight conveyance. How they will fare under the bill shortening the length of freight cars remains to be seen. The additional labor cost for running more freight trains, which is the purpose of the bill, will necessitate employment of a large number of additional men. This and other legislation, it would seem, might wait at least until railroads are further along toward recovery.

### AAA Payments to Farmers

The AAA reports conservation payments and costs for 1936 are \$400 million. Among other items payments were made to farmers for carrying out soil building operations on 54 million acres of land, and for diverting 31 million acres from soil depletion to soil conservation.

The report divides the country into five sections and shows, including county expenses, that the North-central region of 10 states, from Ohio to Nebraska, received nearly \$140 million, and next to that in amount nine states of the South, from South Carolina to Texas, received \$111 million.

### Credit Sales Volume

The Standard Statistics Co. of New York, in referring to current reports that instalment selling has assumed alarming proportions, with retailers offering increasingly liberal credit terms, says that while there has been this trend and there has been a tendency to reduce or eliminate the down payment, from an analysis of the situation retail credit sales in 1936, whether of the open credit or instalment type, were neither excessive nor dangerous. Instalment sales in 1929 were 13.3 per cent of total retail sales. In 1936 they represented 12.2 per cent of total sales.

The report adds: "The fact that the volume of credit sales was almost as great proportionately as in 1929 is not necessarily unfavorable, since purchasing power last year was within 7 per cent of the 1929 total. Any claims that credit sales in the latter year were excessive or that instalment selling at that time added greatly to the intensity of the depression are controverted by the experience with instalment paper, which was definitely favorable."

(Continued on page 56)



## SMARTLY RE-MODELED SHOPS ATTRACT TRADE TO THE NEW SHOPPING CENTER OF NEW JERSEY

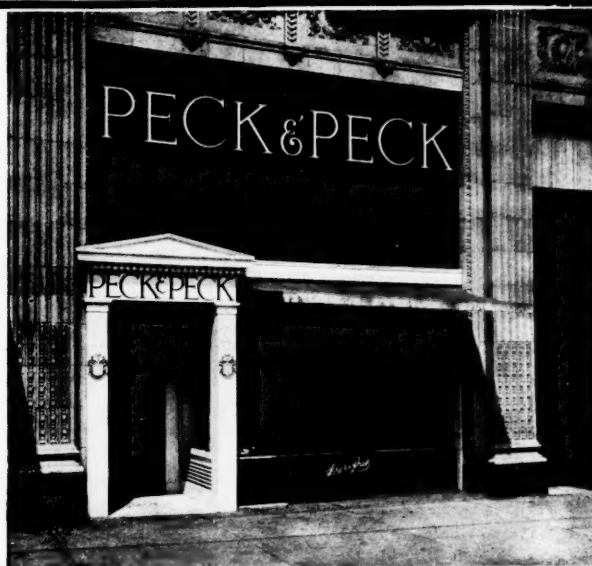
Virginia Black Serpentine was used for bulkheads for the Kress store on Central Avenue, near Harrison Street, East Orange, a little over five years ago. Today, this natural, quarried black stone decorates the facades of the following stores in this suburban shopping center: Peck & Peck (shown), Slater's, Black, Starr & Frost-Gorham, and Ethel Klein, Sportswear. On the next block a new group of stores, under construction, will use six hundred square feet of Virginia Black Serpentine for bulkheads.

These moderate-sized shops in E. Orange, N. J., are typical of the many in other cities, for which this durable, black stone has been chosen for reasons of economy as well as color. The polish on Virginia Black Serpentine is natural, and experience has shown that it will stand up almost indefinitely.

Inquiries will be answered promptly, and we will be glad to send you a set of samples, conveniently boxed, showing the range of stone from the Alberene Quarries, including mottled dark blues and greens.

# Virginia Black SERPENTINE

ALBERENE STONE CORPORATION OF VIRGINIA  
419 FOURTH AVENUE, NEW YORK, N. Y. Quarries and Mills at Schuyler, Va.



Above—Peck & Peck shop, East Orange, N. J.—one of the group of shops on which Virginia Black Serpentine was used.

To right—The Peck & Peck shop which was awarded the Prize for the outstanding re-modeling operation on Euclid Avenue, Cleveland, O., in 1936. Another Virginia Black Serpentine installation.



## NATURAL GAS

Its thermal value is constant, quality uniform, and measurement accurate. Combustion efficiency can be made, and kept perfect through automatic control.

The use of natural gas reduces or eliminates many maintenance problems common to heat transfer equipment, leaving your personnel free for productive effort.

## SOUTHERN NATURAL GAS CO.

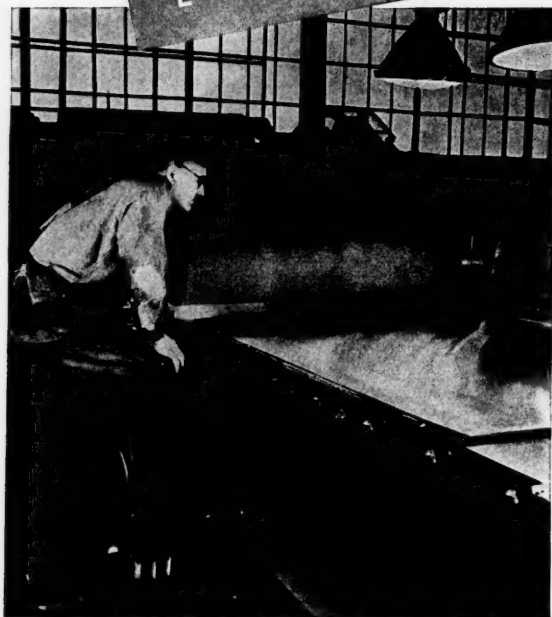
Watts Building

Birmingham, Ala.

# Busy.

## MAKING FINE STAINLESS

[BUT NOT TOO BUSY]



• Yes, it is true that Armco is exceedingly busy producing stainless steels for a hundred-and-one varied uses. The picture shows it going through.

Buyers seem to like our sheets, strip and plates. They say the finishes are par-excellence, the fabricating qualities uniformly good, and the acceptance of their products is heightened by the Armco name.

Yet as busy as we are turning out fine stainless, we have the men, methods and equipment to produce more. Especially are we interested in your new problems and new applications.

If you are looking for a source of supply that will give you *what* you want, *when* you want it, we shall be glad to hear from you. The American Rolling Mill Company, Executive Offices: 950 Curtis Street, Middletown, Ohio. District Offices in All Key Cities.



## ARMCO

### STAINLESS STEEL

## Financial News

(Continued from page 54)

### Tax Evasion

Congress is tackling the job of plugging up the holes in the income tax law, through which there has been legal avoidance of tax payments. Recent hearings before the Senate Committee proved little in the way of law evasion. The country took it without particular interest, but with the knowledge that unfortunately a great part of the taxes collected by government have been put to very unwise use, and that the hearings bore earmarks of an effort to manufacture a sensation.

It would be far better to give closer attention to economy and the payment of debt piled up by hair-brained schemes that get us nowhere except into greater expense through more bureaus, more job-holders and less instead of more "abundant life."

### Adjourn Congress

The country hopes for early adjournment of Congress so that business may proceed without fear of adverse legislation that has occupied such a large place in the news. While we would have gotten out of the depression sooner we believe if there had not been so many attempts to regulate every form of human activity, the present condition of production and the bumper crops which are indicated point to continuing activity for some time to come.

This does not overlook the fact that conditions will continue to be affected by the huge Federal and local debt, high taxes and possible labor unrest, but as the people have shown they still have their feet on the ground when it comes to taking away their liberty, the outlook is much better than it was for progress.

The abandon with which money has been squandered and the complacency of the taxpayer as this has gone on, are causes for amazement, while the more one studies the power of America to recuperate from adverse conditions, the more one marvels.

There must be more insistence, however, upon government living within its income. Huge sums are voted without proper regard for the way bills are to be paid. Instead of proposing more measures to add to the bureaus and the hordes of job-holders and the expense, surely it is time to call a halt at least until the budget is balanced. Even then, however, there should be persistent demand that the American government return to its proper functions and withdraw from the maze of paths into which the brain trust has led it.

### Banks Selling Government Bonds

In the past month banks have continued to liquidate holdings of government bonds. Their holdings of direct obligations of the Treasury were 1¼ billions under the amount held in July of last year. One of the reasons assigned was increasing loans to industry and agriculture.

### Bank Reserves Drop—Gold Stocks at Peak

Excess bank reserves, the base for the Nation's credit, declined \$60,000,000 to \$810,000,000 for the last week in July, according to the Federal Reserve Board. The decrease followed the \$90,000,000 drop of the preceding week. Prior to that excess reserves had increased \$210,000,000 in four weeks. Reserve officials estimate that \$800,000,000 of excess reserves is adequate to maintain "easy money" conditions and support credit demand.

Money in circulation in the last week of July declined \$12,000,000 to \$6,424,000,000, or \$301,000,050 over the same week last year.

Gold stocks increased \$29,000,000 to a new record peak of \$12,433,000,000.

MANUFACTURERS RECORD FOR

"Chief, suppose we could get  
a Location  
like  
this



## *Write for the Facts* about Savannah and Port Wentworth

The industrial sites of the Port Wentworth Corporation are just outside the city limits of Savannah, on the deep water of the Savannah River, and superbly located for rapid movement of both raw materials and finished products. Savannah is served by 5 trunk line railroads. Its large, sheltered harbor is the principal ocean outlet for the Southeast and it is fully equipped with docks, warehouses and other modern facilities for coastwise and overseas shipments.

In the State of Georgia is mined almost every mineral used commercially. Unlimited timber acreage is available at low cost. Here grow cotton, fiber, tung trees, soy beans and sweetpotatoes—all of which chemical research is today using to revolutionize industrial manufacture.

Skilled, semi-skilled and common white American labor and also good colored labor is abundant. Housing facilities are ample and living expenses are low. Savannah has always enjoyed a freedom from strikes.

The saving in power and heating costs alone is considerable. Nearness to raw materials and accessibility to the great markets of the world cut transportation costs drastically. New industries are exempt from taxes for five years.

Submit the physical and material requirements of your company and let us furnish, without obligation, up-to-date information bearing on the possibilities for your particular industry in the Savannah-Port Wentworth area. Inquiries are treated confidentially.

# PORT WENTWORTH CORPORATION

Offices  
Savannah, Ga.

17 East 42nd Street  
New York City

WRITE TODAY for our Free Booklet:  
"Factors in Industrial Location." Full  
of interesting facts.





# « « LETTERS FROM READERS » »

## More Industries for the South

SEABOARD AIR LINE RAILWAY  
Norfolk, Va.

*Editor, MANUFACTURERS RECORD:*

In our opinion, possibilities for industrial expansion in the South are greater today than ever before, and it is our purpose to assist in promoting sound industrial development in every possible constructive manner.

It is the policy of the Seaboard, as I outlined in the special article in the *MANUFACTURERS RECORD* last January, to encourage and assist in every possible way the further industrial development of the territory served by this railroad. Our Industrial Department is active in bringing to the attention of manufacturers raw materials and other favorable factors in our territory. With the pulp and paper developments which have taken place in the Southeast in the past two years, opportunities are created for further diversified manufacture.

L. R. POWELL, *Receiver.*

## Effective Publicity

GEORGIA POWER COMPANY  
Atlanta, Ga.

*Editor, MANUFACTURERS RECORD:*

I congratulate you on the splendid work done by your publication in the industrial upbuilding of the South.

Your magazine has ever been a persistent champion in featuring the economic advantages of the Southern states and I attribute much of the vast industrial growth that has taken place in this section to your knowledge of our industrial assets and to your effectiveness in making known these assets to others.

P. S. ARKWRIGHT,  
*President.*

## Developing the South

CLARKSDALE REGISTER  
Clarksdale, Miss.

*Editor, MANUFACTURERS RECORD:*

I am intensely interested in the development of our state, and of the entire South. I appreciate the fact that your publication was the original pioneer in this work. Without your efforts the development of the South would have been much longer delayed.

J. B. SNIDER.

## Contains Valuable Information

MISSOURI-KANSAS-TEXAS LINES  
Belton, Texas

*Editor, MANUFACTURERS RECORD:*

The *MANUFACTURERS RECORD* contains valuable information, and enables one to keep up with what is going on in the South.

G. H. SPEARS,  
*Agent MKT Lines.*

## Well Pleased

F. N. BURT COMPANY, INC.  
Buffalo, N. Y.

*Editor, MANUFACTURERS RECORD:*

We were well pleased with the articles concerning pulp and paper mills and the other articles relative to daily manufacturing activities.

R. L. STUART,  
*Purchasing Department.*

## Stimulating Cooperation

Roanoke, Va.

*Editor, MANUFACTURERS RECORD:*

Your method of cooperation is decidedly stimulating, and as I come to know the publishers and policy of your magazine better, it is more easily understood why the *MANUFACTURERS RECORD* is so frequently mentioned as the leading industrial magazine of the South.

OSCAR A. WALL.

## A Factor in the South's Development

POLICE JURY ASSOCIATION OF LOUISIANA  
Laplace, La.

*Editor, MANUFACTURERS RECORD:*

The *MANUFACTURERS RECORD* and the *Blue Book of Southern Progress* are a great factor in the industrial development of our Southern states, and particularly Louisiana, where Governor Richard W. Leche is making a concerted and active drive to bring in new industries.

HENRY C. MAURIN,  
*Secretary.*

## Values Service Rendered

THE FREDERICK CHAMBER OF COMMERCE  
Frederick, Okla.

*Editor, MANUFACTURERS RECORD:*

After reading the March issue of *MANUFACTURERS RECORD*, I am thoroughly convinced that this organization would be at a loss without the wonderful service rendered through this magazine.

BAILEY G. CHOATE,  
*Secretary-Manager.*

## Service to Southern Industry

EDUCATIONAL SERVICE  
NATIONAL COTTONSEED PRODUCTS ASSO.  
Dallas, Tex.

*Editor, MANUFACTURERS RECORD:*

We are using additional copies of the April *MANUFACTURERS RECORD* to call to the attention of leaders in our industry the splendid service that *MANUFACTURERS RECORD* is rendering to our own industry and to the entire South.

Because of the increasing importance of margarine as a market for Southern farm products, we feel that your use of this article is especially helpful at this time.

A. L. WARD, *Director.*

## Oppose Black-Connery Bill

MIAMI BEACH CHAMBER OF COMMERCE,  
Miami Beach, Fla.

*Editor, MANUFACTURERS RECORD:*

It is very heartening that we have a publication such as the *MANUFACTURERS RECORD*. It is so sound in its views and so fearless in its expressions, regardless of where the shoe pinches. The few words on the cover page should cause its readers to realize the serious condition our nation is facing today.

You quote from the Mobile Chamber of Commerce regarding the Black-Connery bill. The Miami Beach Chamber of Commerce also vigorously opposed this bill, and I am enclosing a copy of the action taken by our Board and sent to all Florida Congressmen and Senators.

Following is a copy of a letter to all Florida Congressmen and Senators, the writing of which was approved at a meeting of the Board of Governors of the Miami Beach Chamber of Commerce:

"We feel the passage of the Black-Connery bill would seriously affect the entire country by greatly increasing production costs and causing unreasonable price advances in general.

"We feel this bill would deal a death blow to the agricultural and industrial interests of Florida and other Southeastern states. The bill is apparently an attempt to re-establish the N.R.A., but in a more vicious and destructive form.

"It appears to us that very little consideration has been given to the wide variations of physical, seasonal and other conditions affecting the employer and employee in different sections.

"There are at present insufficient tariff provisions for the general protection of Florida industrial production, a large part of which finds its way to foreign markets, such as lumber, vegetable crates, phosphate rock, naval stores, citrus products, canned fruits, vegetables and many other products.

"The fixing of a minimum rate of 40c for common labor would so increase the cost of the above mentioned commodities that our foreign business would no doubt be wholly lost.

"The South is built up of small business units, which are always fearful of the creation of boards with undisclosed intentions regarding so-called regulation of business."

THOS. J. PANCOAST,  
*President.*

## Cooperation

SOUTHERN STATES INDUSTRIAL COUNCIL,  
INC.

Nashville, Tenn.

*Editor, MANUFACTURERS RECORD:*

I am always very much interested in your magazine and look forward to receiving it each month. We are appreciative of your splendid cooperation.

J. E. EDGERTON,  
*President.*

## CERTAIN-TEED— A FAMOUS FAMILY NAME

In the long line of the Certain-teed family of building products are names known with affection by the entire South. Just a few of the best known are:

**Bestwall**, the original gypsum wallboard.

**Beaver Board**, the original fibre board, and its related Beaver products such as Lath, Insulating Gypsum Board, Decorative Tile, Gypsum Sheathing, etc.

**Vulcanite Shingles, Roofing, and Siding.**

**Certain-teed Shingles, Roofing, and Siding.**

**Acme, Agatite, Certain-teed, and Beaver Plaster.**

*In the Certain-teed family of products is the right kind of material for Southern use.*

Certain-teed for Every Need

**CERTAIN-TEED PRODUCTS CORP.**

Sales Offices

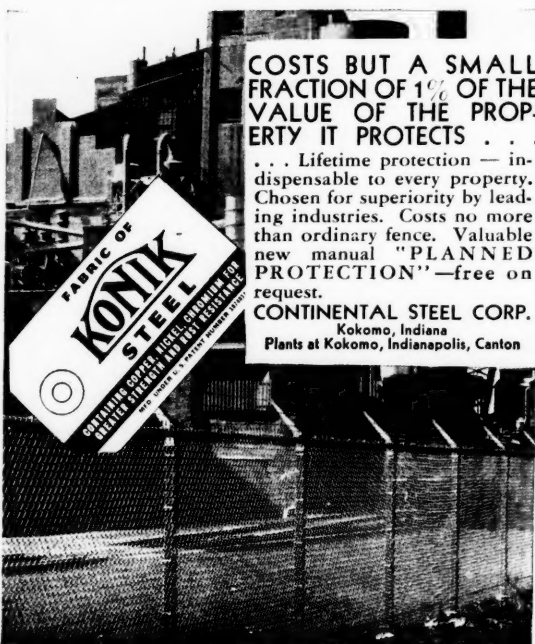
Baltimore

Atlanta

Dallas

**CERTAIN-TEED - SOUTHERN MADE  
FOR SOUTHERN TRADE**

## CONTINENTAL Chain Link FENCE

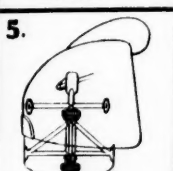
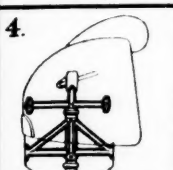
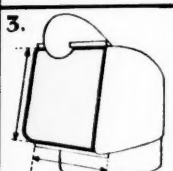
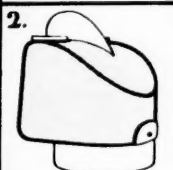
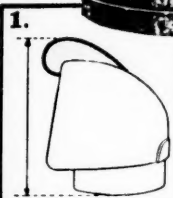
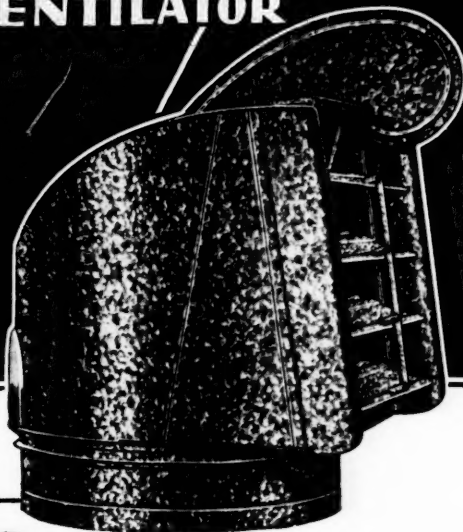


COSTS BUT A SMALL FRACTION OF 1% OF THE VALUE OF THE PROPERTY IT PROTECTS . . .

... Lifetime protection — indispensable to every property. Chosen for superiority by leading industries. Costs no more than ordinary fence. Valuable new manual "PLANNED PROTECTION" — free on request.

CONTINENTAL STEEL CORP.  
Kokomo, Indiana  
Plants at Kokomo, Indianapolis, Canton

## Again Swartwout Leads with a NEW Rotary VENTILATOR



### SUPERIOR CONSTRUCTION

1. Low slung vane—less overall height enhances appearance—holds ventilator absolutely steady in the wind.
2. New curved body modern lines. Pleasing to look at. Provides the ultimate in efficient operation.
3. Oversize outlet provides extra large capacity under all operating conditions.
4. Seamless steel elliptical tube interior construction welded into one-piece frame. Most rigid construction known.
5. Stainless steel ball bearings in dustproof housings. Never need lubricating or attention.

### SUPER PERFORMANCE

For general factory ventilation—for removal of excessive heat, smoke fumes, moisture, and de-vitalized air—and for use wherever a roof ventilator is required—this new Swartwout Rotary will give you that extra satisfaction which comes only with a job extra well done. Swartwout Ventilation Engineers are available for consultation without obligation. Located in all principal cities. Write today for the complete Swartwout catalog.

### THE SWARTWOUT COMPANY

18619 Euclid Avenue, Cleveland, Ohio  
Ventilation Specialists

#### Offices

Atlanta: The Swartwout Co., 1008 Norris Bldg.  
New Orleans: Devlin Bros., 1003 Maritime Bldg.  
Houston: H. T. Riley, Lamar Annex.  
Memphis: Tri-State Iron Works, 677 N. Main St.

**MORE AIR PER MINUTE PER DOLLAR**

# INDUSTRIAL NEWS

## Republic Steel Appointments

Republic Steel Corporation, N. J. Clarke, Vice President in Charge of Sales, Cleveland, Ohio, announces the appointment of Mosen-Dunnegan-Ryan Co., El Paso, Tex., as distributors of Enduro Stainless Steel, and the Odell Hardware Company, Greensboro, N. C., as distributors of Toncan Iron sheets. Warehouse stocks of both these products are now available in the most important cities.

## Worthington Pump Unfilled Orders

As of July 1, unfilled orders of Worthington Pump and Machinery Corporation, Harrison, N. J., were 81 per cent higher than a year ago, and at the highest point in 17 years, according to President H. C. Beaver.

## Roots-Connersville Blower Appointments

Additional appointments of zone representatives by J. B. Trotman, manager of Turbine Pump Division, Roots-Connersville Blower Corporation, Connersville, Ind., include: E. E. Horn, Marietta, Ga., for North Carolina, South Carolina, Georgia and Florida; Chester E. Wing, Cincinnati, Ohio, supervising turbine sales in adjacent counties of Ohio, Indiana and Kentucky; James T. Castle, Pittsburgh, Pa., through his associate D. J. McConnell, has charge of selling turbines in the western part of Pennsylvania and in bordering counties of Ohio and West Virginia.

## Heating and Ventilating Exposition

Leading manufacturers of equipment for winter heating and summer air conditioning are represented among exhibitors at the Fifth International Heating and Ventilating Exposition, to be held at Grand Central Palace, New York, January 24-28, 1938. Exhibitors include manufacturers of metals and alloys, sheet metal and equipment to fabricate it, tools, instruments of precision, insulating materials, and fuels. The exposition will be under the personal direction of Charles F. Roth, President, International Exposition Company, Grand Central Palace.

## Westinghouse Bell Type Furnaces in Ford Plant

In addition to 12 Westinghouse bell type annealing furnaces now in service at the Ford plant, the Ford Motor Company, Dearborn, Mich., has purchased 12 more of this type for annealing automobile body stock.

## Koroseal Paper

The latest use for Koroseal, a synthetic elastic developed by the laboratories of The B. F. Goodrich Company, Akron, Ohio, is its application to paper, thus rendering it suitable for service where a waterproof, oilproof, greaseproof, airtight or sanitary paper is required.

## Opens Pittsburgh Office

Iron & Steel Products, Inc., Chicago, Ill., is opening an office in the Investment Building, Pittsburgh, Pa., in charge of C. W. McKirdy. The company has moved to its recently acquired plant site of 27 acres in Chicago, and its general offices are now at East 135th Street and C. S. S. & S. B. R. R., (Hagewisch Station), Chicago.

## Mercoird Opens Baltimore Office

The Mercoird Corporation, J. W. Owens, Vice President, Chicago, Ill., has opened a new office at 1035 Cathedral Street, Baltimore, Md., where it will carry a complete stock of Mercoird automatic controls. The Baltimore office will be in charge of John Jex, Jr., who will cooperate with Mercoird distributors in the Baltimore area.

## Power and Mechanical Engineering Exposition

Based on economics and location, combined buying forces augur well for the Exposition of Power and Mechanical Engineering to be held at the New International Amphitheatre, Chicago, October 4 to 9, 1937. Plans for the Exposition have been greatly advanced during recent weeks and the list of exhibitors up to now gives assurance that the Show will be outstanding in the number of companies represented and comprehensive in products displayed. The Exposition is under the personal direction of Charles F. Roth, President, International Exposition Company, Grand Central Palace, New York.

## Terry Steam Turbine Representatives

The following district representatives for handling sales of Terry turbines, reduction gears, turbo-generator units, etc., have been appointed by The Terry Steam Turbine Company, Hartford, Conn.: Walter Cooke, 846 Baronne Street, New Orleans, La.; Cowles & Company, 509 Mercantile Building, Dallas, Tex.; M. N. Dannenbaum Company, 202 Petroleum Building, Houston, Tex., and W. V. C. Jackson, National Bank of Tulsa Building, Tulsa, Okla.

## Brill Establishes Southeastern Territory

The J. G. Brill Company, New York, N. Y., and its affiliate, The A. C. F. Motors Company, have established a new Southeastern Territory to comprise the states of Florida, Georgia, North Carolina, South Carolina, Alabama and Eastern Tennessee. The new territory is in charge of Stanley L. Green, District Sales Manager, 1410 Peachtree Street, Atlanta, Ga.

## Gar Wood Tank Distributors

The following firms have been appointed distributors for the Gar Wood Tank, accord-

ing to Harold C. Laubach, general manager of the tank division of Gar Wood Industries, Inc., Detroit, Mich.: Ohio Equipment Company, 47-49 West Maple Street, Columbus, Ohio, and Oil Station Appliance Company, 1145 East 22nd Street, Indianapolis, Ind. The Gar Wood tank division manufactures truck and trailer tanks for transporting gasoline, fuel oil, milk, ink, varnish, water and various chemicals.

## Leipzig Trade Fair

Held semi-annually, the 700-year old Leipzig Trade Fair, attracting manufacturers and buyers from a large number of countries, will hold its 1937 Fall Fair on August 29 in Leipzig, Germany. More than 600 exhibitors will participate.

## Manufacturers' Agent

James A. Worsham, business analyst, sales counselor and public relations expert, has recently moved to 7329 Lohmeyer Avenue, St. Louis, Mo., and plans to establish a business as manufacturers' agent for a few non-competitive lines, selling to the building trade and to manufacturers.

## Twin Coach Southern Deliveries

Southern deliveries of Twin Coach Company, Kent, Ohio, from June 15 to July 15, include the following: Five Model 23-R, 23-passenger coaches to Carolina Power and Light Company, Raleigh, N. C., and six Model 23-R, 23-passenger coaches to Carolina Power and Light Company, Asheville, N. C.

## Mercoird Appointments

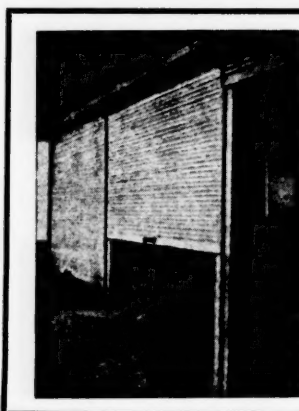
The following appointments have been made by The Mercoird Corporation, Chicago, Ill., manufacturers of automatic controls and mercury controls and mercury switches: Bassett Lerch has been transferred from the Chicago factory to St. Louis, Mo.; Russell MacDonald is with the company at its Boston office, 25 Ivy Street, Boston, Mass., and Paul J. Provost, is at the company's Philadelphia office, 3137 North Broad Street.

## American Chemical Society Meeting

The ninety-fourth meeting of the American Chemical Society will be held at Rochester, N. Y., September 6-10, with Florus R. Baxter, retired head of Vacuum Oil Company's research laboratories as honorary chairman, and M. H. Elsenhart, President, Bausch and Lomb Optical Company, as general chairman. Special reports of developments affecting industry, nutrition, public health, pure science, and education will be presented. Offices of the American Chemical Society are at 330 West 42nd Street, New York.

## American Steam Pump Changes Name

Beginning operations about 60 years ago in the manufacture of steam pumps only, the American Steam Pump Company, Battle Creek, Mich., found its name entirely appropriate. The company is now building centrifugal, turbine, and power pumps for many services, and so to better associate the company name with its long established trade name—American-Marsh—its name has been changed to American-Marsh Pumps, Inc. (Continued on page 62)



## ROLLING WOOD PARTITIONS

For all purposes: Wherever Division of Rooms is required. Also

VENETIAN BLINDS  
Reliable Material and Low Prices.

SWEDISH  
VENETIAN BLIND CO.  
601 W. 26th St.  
New York  
Branches in  
Principal Cities

*Lowest Cost*  
PER SQUARE FOOT OF FLOOR SPACE



Sheet steel covering over structural steel frame—in strict accordance with A.I.S.C. specifications. Insulated if desired. Offer lowest cost per square foot of floor space of all types of permanent construction. Standard design or built to specifications.  
MARYLAND METAL BUILDING CO.,  
Race and McComas Sts., Baltimore, Md.



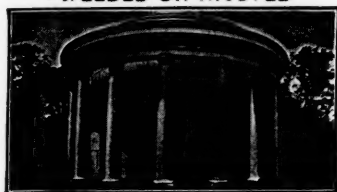
**MARYLAND METAL BUILDINGS**

**NEW CATALOG**  
—send for copy today.



# **SOUTHLAND PRODUCTS**

—WELDED OR RIVETED—



Million gal. Tank at White Sulphur Springs, W. Va.

**CHATTANOOGA BOILER & TANK CO.**  
CHATTANOOGA, TENN.

We now manufacture and offer to the trade tanks in all sizes for pressure or gravity work. Also other steel equipment of either

**WELDED  
OR RIVETED  
CONSTRUCTION**

This applies to field as well as shop built equipment.

Write us for information and quotations.

## **NORFOLK TANK CORPORATION**

NORFOLK, VA.

Baltimore Rep: Allan U. Bevier, Inc., 322 S. Fremont Ave.

### **STEEL PLATE FABRICATORS**

<b>TANKS:</b>	Standpipes	Angle Rings
Pressure	Bins Hoppers	Dredge Pipe
Truck	Stacks	Asphalt Equipment
Trailer	Pipe Coils	Industrial Specialties
Water		
Process		
Storage		

## **STEEL PLATE CONSTRUCTION TANKS STACKS DREDGE PIPE**

Acid Tanks	Digestors	Jacketed Tanks	Settling Tanks
Breechings	Divers	Molasses Tanks	Standpipes
Condensers	Filters	Oil Storage Tanks	Still
Coolers	Gasoline Tanks	Pressure Tanks	Vacuum Tanks

**LANCASTER IRON WORKS**  
LANCASTER, PA.

## **FILTERS**

Water Filters for Municipalities, Textile Finishing Establishments, Rayon Manufacturing Plants, Swimming Pools, Raw Water Ice Plants, Laundries, etc.

**ROBERTS FILTER MANUFACTURING COMPANY**  
604 Columbia Avenue Darby, Pennsylvania

## **Filtration and Pumping Equipment**

*For Water Works and Swimming Pools  
Sales and Installation*

**BURFORD, HALL AND SMITH**

140 Edgewood Avenue, N. E.,  
Atlanta, Georgia

## **Water Purification Plants**

*Any Type—Any Purpose—Any Capacity*

Dry Chemical Feed Machines  
Swimming Pool Filters

**E. W. BACHARACH & CO.**

Rialto Bldg. Kansas City, Mo.

## **STRUCTURAL for BUILDINGS STEEL and BRIDGES**

Capacity 1000 Tons per Month. 3000 Tons in Stock

**Carolina Steel and Iron Company**

*The Largest Steel Fabricators in the Carolinas*

Greensboro North Carolina  
S. C. Rep., Edward McCrady, 307 Allen Bldg., Greenville, S. C.

# **VATS**

## **Another Cole Product**

If you require various vats for different purposes we can furnish them, made especially for your requirements—from your specifications and designs or ours. Vats made from Quality steel, Nickel Clad and Stainless Steel, Alloy steel, Aluminum, Monel metal, Lead and Tin lined, etc., for acid, NaOH storage, chemicals, dyes, etc.

Other COLE products are: Bins, Kettles, Kiers, Boilers, Heavy Pressure Vessels, Tanks, Nickel-clad and Stainless Steel Vessels, Towers, Fabricated Platework, Etc.

Write for "Tank-Talk"—No. 11-D.

*Tank Builders For Over 80 Years!*

**R.D. COLE MFG. CO.**  
NEWNAN...GEORGIA

**For Warm Relations in Fabrication**

# **DAVIS**

## **CYPRESS TANKS**

**FACTORY TANKS AND STEEL TOWERS**

If you handle liquids, for storage or processing, Davis Cypress Tanks very likely will provide new economies. For water, common chemicals, or for mixing and storing solids and compounds. Industrial plants and railroads have used our tanks for 46 years. Ask for estimates and catalog—both sent promptly on inquiry.



**G. M. DAVIS & SON**

P. O. Box 5, Palatka, Florida



## **BELMONT IRON WORKS**

PHILADELPHIA NEW YORK EDDYSTONE

Southern Sales Offices, Charlotte, N. C.

*Engineers . Contractors . Exporters*

**STRUCTURAL STEEL  
BUILDINGS AND BRIDGES  
RIVETED-ARC WELDED  
BELMONT INTERLOCKING  
CHANNEL FLOOR**

*Write for Catalogue*

Main Office—Philadelphia, Pa.  
New York Office—44 Whitehall St.

## INDUSTRIAL NEWS

(Continued from page 60)

### Exposition of Chemical Industries

Plans are well advanced for the Sixteenth Exposition of Chemical Industries to be held at Grand Central Palace, New York, December 6-11, 1937, and all available space on the first and second floors has been sold to exhibitors and one-third of the space on the third floor is under contract. Three floors have been reserved for the Exposition which will be under the personal direction of Charles F. Roth, President, International Exposition Company, Grand Central Palace.

### American Foundrymen's Association

The American Foundrymen's Association will hold its next convention and exhibition in Cleveland, May 14-19, 1938. The Exhibition will occupy the public auditorium and Lake-side Exhibition Hall.

## TRADE LITERATURE

#### CONDENSATE RETURN UNIT—

Bulletin No. 1972-B—Ameron Motorpump condensate return unit showing applications.  
Ingersoll-Rand Company, Phillipsburg, N. J.

#### STEEL—

Folders 386 and 387, devoted, respectively, to Bethlehem Silico-Manganese Spring Steel and Mayari Staybolt Steel.  
Bethlehem Steel Company, Bethlehem, Pa.

#### CONTROLLED CIRCULATION—

Catalog—illustrating and describing the principle of controlled circulation as embodied in a special design of fire-tube boiler, the C-E Nuway Boiler.  
Combustion Engineering Company, Inc., New York, N. Y.

#### DIESEL ENGINE APPLICATION—

Booklet—"Plans for Power Supplied by Caterpillar Diesel Engines," pointing out advantages and economy of Diesel Engines.  
Caterpillar Tractor Company, Peoria, Ill.

#### BAKELITE—

Booklet—"The Versatile Service of Bakelite Materials," story of the development of various Bakelite resinous materials, characteristics, properties and applications.  
Bakelite Corporation, New York, N. Y.

#### BALL BEARING CASTERS—

Folder—the new Nice Red Diamond Ball Bearing Casters.  
Nice Ball Bearing Company, Nicetown, Philadelphia, Pa.

#### REFRIGERATING UNITS—

Bulletin No. 97-C—low pressure refrigerating units.  
Frick Company, Waynesboro, Pa.

#### NEOPRENE—

Booklet—"Neoprene, an engineering material with rubber-like properties, yet resisting the deteriorating effects of oil, heat, sunlight, chemicals and oxidation; published by—  
Rubber Chemicals Division, E. I. du Pont de Nemours & Company, Wilmington, Del.

#### LIGHTING EFFICIENCY—

Booklet—"Greater Lighting Efficiency," illustrating and describing Horizontal Cooper Hewitt Lamps.  
General Electric Vapor Lamp Company, Hoboken, N. J.

#### FIRE PROTECTION—

Booklet—"108 Extra Values," illustrated, covering engineering features of Lux carbon dioxide fire protection equipment.  
Walter Kidde & Company, Bloomfield, N. J.

#### DROP-FORGED PIPE FITTINGS—

Bulletin WT23—Weldoblets and Thredoblets, patented dropforged pipe fittings for making branch pipe connections by welding.  
Bonney Forge & Tool Works, Forged Fittings Division, Allentown, Pa.

#### ELECTRIC MOTORS—

Booklet—describing construction and applications of practically every type commercial electric motor, with engineering data on various types of special motor applications and construction.  
The Louis Allis Company, Milwaukee, Wis.

#### NON-METALLIC SHEATHED CABLE—

Booklet—"Anaconda Durasol Cable," devoted to non-metallic sheathed cable for direct burial in the ground, with descriptions of types available and their uses.  
Anaconda Wire and Cable Company, New York, N. Y.

#### TEMPERATURE AND PRESSURE INSTRUMENTS—

Catalog No. 1060C—latest information on the complete line of TAG Indicating, Recording and Controlling Instruments for temperature and pressure.  
C. J. Tagliabue Mfg. Co., Brooklyn, N. Y.

#### ROLLER—

Bulletin 237—describing C. H. & E. 2-Ton Tandem Roller designed for general light rolling work in varied applications.  
C. H. & E. Manufacturing Company, Inc., Milwaukee, Wis.

#### CONTROLOGRAPH—

Catalog—Controlograph, an American instrument developed over a period of years in the Engineering Department of the American Schaeffer & Budenberg Instrument Division of Manning, Maxwell & Moore, Inc., instrument assures increased production, it is claimed, reduced labor costs, eliminates rejections, saves fuel, and gives maximum results from processing equipment.

American Schaeffer & Budenberg Instrument Division, Manning, Maxwell & Moore, Inc., Bridgeport, Conn.

#### STEEL UNION—

Pamphlet—A new Rockwood Dualsteel Union for special uses.  
Union Division, Rockwood Sprinkler Company, Worcester, Mass.

Metal Statistics 1937—Thirtieth annual edition of Metal Statistics by R. E. V. Luty and N. J. Langer, Editors, contains the statistical information on ferrous metals and non-ferrous metals and miscellaneous economic subjects and a Buyers' Directory. The book is published by American Metal Market, New York, N. Y., and is priced at \$2.00.

#### OIL FILM BEARING—

Catalogue—illustrating and describing Fast's new Precision Oil Film Bearing which, like Fast's Self-Aligning Coupling, carries the load on a perfect oil film, thereby preventing a metallic contact, resulting in practically unlimited life under severe conditions of service.

The Fast Bearing Company, Baltimore, Md.

### Glass Razor Blades

While razor blades of glass, which are claimed to give a faultless shave, have been produced in experimental work in Czechoslovakia laboratories, the commercial manufacture of the blades has presented numerous production and cost difficulties, according to the Metals and Minerals Division, Department of Commerce.

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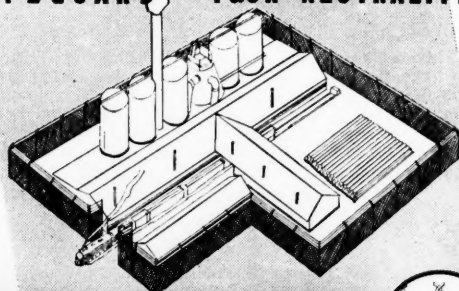
**L**YONORE Metal gives you double assurance—1. proved superiority under all conditions—2. the integrity and long years of experience of Lyon, Conklin & Company, Inc., behind every purchase. To be sure of maximum life and lasting economy in all sheet metal work, look for the Lyonore Metal trade mark. Write for complete information.

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84,000 square feet *Genuine* RU-BER-OID Roll Roofing, applied with Eason Flaps on the F. S. Royster Guano Co. Building, Macon, Ga.

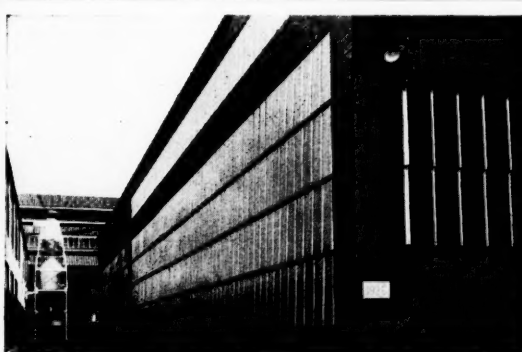
*Genuine* RU-BER-OID Roll Roofing is now available with Eason Flaps.\* With this improved method of application, all nails are sealed with two layers of fabric and one of asphalt seam cement. Nails cannot rust or pop out because of heat. Virtually a 7-layer, built-up seam with closed lap edge, there is no opportunity for wind or water to get under it.

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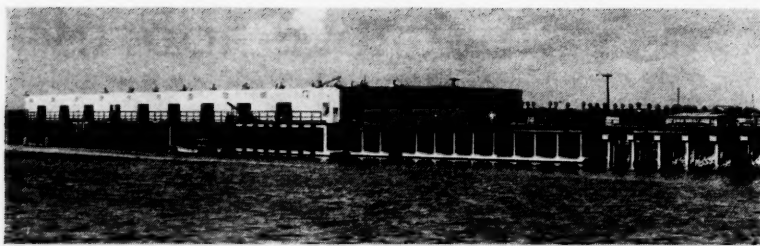
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**PENNSYLVANIA WIRE GLASS CO.**  
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Port of Brownsville, Texas, has completed the \$250,000 wharf and shed at the west end of the turning basin. Facilities have thus been increased 50 per cent. It is proposed to construct a \$100,000 pre-cooling plant with a capacity of 100-carloads. F. W. Hofmotel is Director of the Port.

## Pottery Making in Georgia

(Continued from page 34)

paper and rubber compounding. Small tonnage, comparatively, as yet enters the pottery field. Nevertheless, the American potter has come to realize in recent time that there is a nigger in the woodpile since a number of the Georgia clay miners have awakened to the possibilities of their clays in pottery and have taken a cue from the expansion of their business in the large filler trade. In this field, too, there was much prejudice against Georgia material. However, rapid strides have been made during the past 15 years. American clays are being put to work. Competent research, technical control and intelligent management have successfully combatted all that could be held against Georgia kaolins to their apparent disadvantage. The former cry for uniformity is no longer heard. The absolute needs of the paper manufacturer have been and are being met. Larger capital and earnest application, spurred by remorseless competition, have made all this possible.

### Proven Quality

In their pamphlet "Geological and Technological Aspects of the Sedimentary Kaolins of Georgia" (1937) by Dr.

A. V. Henry and W. Harry Vaughan, (Ceramic Dept., Ga. Tech.) they state: "The colloidal properties of sedimentary kaolins are superior to those of primary kaolins. The ceramic uses of Georgia kaolins are largely confined to whitewares and refractories. Of the whitewares, they are at present used in earthenware (so-called semi-porcelain), porcelain, electrical porcelain, sanitary ware, hotel china, wall tile, and special bodies such as spark-plug cores and dry pressed textile fixtures. In the refractory industry, firebrick, plastic refractories, electrocast refractories and flue linings are now being produced. The property of forming quantities of mullite at high temperatures, coupled with a high fusion point, has assured extended use. The superior spalling and load-bearing characteristics of clay refractories made from these kaolins are now generally recognized in the industry."

In the case of our own "G-1" clay, also known as "Savannah Clay," which is an indurated white clay of very fine texture, we have had some remarkable experiences with this one clay material in the past twenty years. Foremost a highly refractory material (Cone 34), we have furnished it for high-duty ware in localities all the way from eastern Canada to the Pacific coast. We had little thought of its usefulness otherwise. R. B. Keeler in Los Angeles made long-life saggers of it

for many years. He introduced it to Dr. Malinovsky, who, in course of time discovered that in body-mix of 2 per cent it reduced drying cracks in the casting of sanitary ware almost to nil. Then came Prof. Paul E. Cox, of Ames, Iowa, who in two years experimentation, made excellent (white) pieces of hard porcelain of it with slightly reducing atmospheres; also good spinel and glazed ware, finally translucent ware at low temperatures under oxidizing conditions, using 55 per cent kaolin, 20 per cent spar and 25 per cent flint. This clay is an excellent plasticizer and almost a ball clay to which it probably could be made superior. Bleining had previously pronounced it a clay with very excellent qualities. Its positive plasticity and translucency at low temperatures have only recently come to light. German potters announced a year ago the fine-grained kaolins, burning tight at 1500 deg. C., to make the best hard porcelain. Open burning to cone 9, and from there on up, the higher, the tighter and stronger, that's our "G-1." In the light of the almost startling developments with research on this brand of clay, I feel we have hardly touched it within the past twenty years, except in limited refractory tonnage. One need not wonder at this when it is common knowledge that the former Royal Saxonian Potteries in Dresden, Germany, were in operation for more than two centuries before their matchless "Dresden China" was perfected.

I have heard it said that there were times when many American potters made trash and were able to sell it at a good profit. If it were true, it is most refreshing to repeat the remark recently made by Thos. B. Anderson, of the Crown Potteries in Indianapolis, one of the ablest potters in the country, predicting the finest china in the world would ultimately be made in the United States. Many of the American potters nowadays excel foreign product, and the prices are not excessive at all. There is much whining these days among the potters over the growing importation of Japanese cheap ware which floods American markets. Potters will have to realize that dime store managers believe in the Scotch saying "many a nickel makes a muckle," and that their small profits count up in sales volume.

And now the question may be asked "Who wants to live and labor in the South?" Foolish question number one! There are still many old mossbacks in other sections who think of the South as it was pictured in antebellum days. O quae mutatio rerum! The writer has lived in the South these past 46 years and is not a native-born Southerner. It is not true that Southern labor is inefficient during the summer season. On the contrary, he knows it of himself to be healthier and more vigorous in the summer and likes the 74 per cent yearly average of sunshine of this section. Any normally constituted person can live and labor here to his heart's content at all seasons and with little exception. It may be considered useless at this time to dwell upon numerous other advantages.

The projected enterprise of the Southland China Company of Atlanta and Gordon, Georgia, can and will succeed with the use of Southern clays, provided they employ not only the necessary capital, but competent research, à la Dr. Herty and his success in making white paper from Southern pine, and good management as well.

## Employment Gains

### Manufacturing Now Shows More Men at Work Than in 1929. Unemployed Reported at 6,246,000

EMPLOYMENT in manufacturing reached 11,824,000 persons during May, 1937, as compared with an average of 11,071,000 in 1929, reports the National Industrial Conference Board. Other occupations to show an increase over 1929 were in trade, distribution and finance of 7,493,000 during May compared with 7,325,000 in 1929; service industries 9,224,000 in May compared with 9,160,000 in 1929, and agriculture 11,457,000 compared with 10,650,000.

The total employment during May was 46,697,000 compared with 47,368,000 in 1929. Construction, transportation,

public utilities, and mining reported the greatest decline.

The unemployed in the United States as of May, 1937, was given at 6,246,000 by the Board. Although this is a great improvement compared with 14,984,000 estimated unemployed in March, 1933, and 8,675,000 in May, 1936, it is far above the estimated 920,000 unemployed in 1929.

#### UNEMPLOYMENT AND EMPLOYMENT (National Industrial Conference Board Figures)

	1929 Average	1937 May
Unemployment total .....	920,000	6,246,000
Employment total .....	47,368,000	46,697,000
Employed in		
Agriculture .....	10,650,000	11,457,000
Forestry and fishing ..	208,000	198,000
Total industry .....	18,582,000	16,906,000
Mining .....	1,087,000	700,000
Manufacturing .....	11,071,000	11,824,000
Construction .....	2,841,000	1,338,000
Transportation .....	2,415,000	1,967,000
Public utilities .....	1,167,000	968,000
Trade, distribution and finance .....	7,325,000	7,493,000
Service industries .....	9,160,000	9,224,000
Miscellaneous .....	1,383,000	1,418,000

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## Continuous Frit Smelter for Porcelain Enamel

**D**EVELOPMENT of gas furnaces that are fully automatic for the smelting of frit on a continuous basis is one of the latest advances in porcelain enamel manufacturing, reports J. B. Nealey of the American Gas Association. This is accomplished by the Porcelain Enamel Manufacturing Company of Baltimore, one of the largest producers of porcelain enamel frits and oxides.

Frits are somewhat similar to glass. The ingredients, brought from all parts of the world, are run through a smelter which reduces the compound to a molten state. The molten frit is tapped from the smelter into a trough of cold water for granulation, then dried, tested and packed in bags. It is sent to individual enameling plants where it is mixed with oxides, clay and water and milled to a desired consistency for application on sheet steel or cast iron and then fired in a furnace at high temperature, which causes the metal and the enamel to fuse into a single unit. Demand for porcelain enamel products is growing each year and like the manufacture of steel, the production of frit has been placed on a continuous rather than a batch basis.

The PEMCO's three continuous gas-fired smelters, each with a daily capacity of 45,000 pounds, are of brick and refractory construction lined with high aluminum low iron content glass tank blocks. The recording pyrometer chart shows the frit is being smelted at a uni-

form high temperature. Vibrators keep the material moving from the rotary mixing drums through the smelters to the dryers where it is packed for shipment.

## Gas Purifying Plants

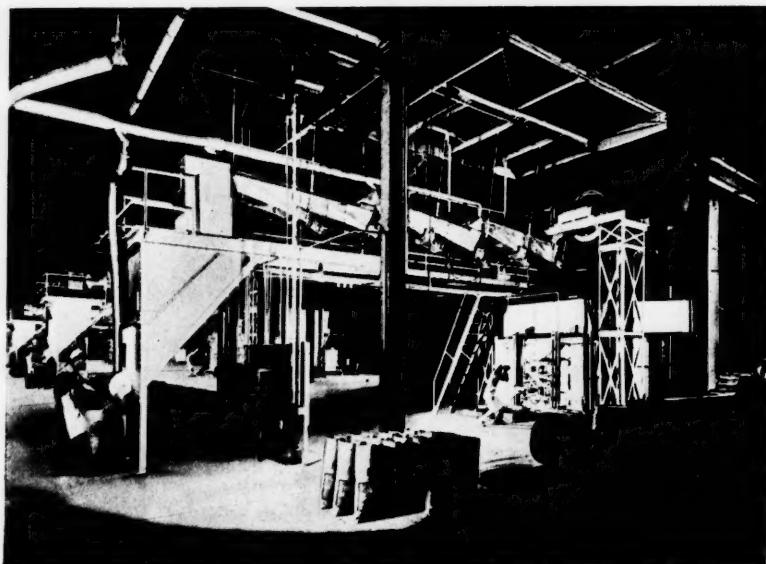
Koppers Company has completed for the Atlantic Refining Co., Philadelphia, the first plant in the East which will purify refinery gas by the new Koppers phenolate process. The Koppers Company also has completed a similar type plant placed in operation August 1 to purify natural gas at Wayne, W. Va., for the Chartiers Oil Company. This new patented process is adaptable for the recovery of hydrogen sulfide from natural gas and refinery still gases, with purification efficiency varying from 95 to 99.8 per cent. This renders the gas suitable for treatment in a polymerization unit for production of liquid hydrocarbons. The system is adaptable to a wide variation in conditions such as hydrogen sulfide concentration, pressure and composition of the gas to be treated.

## Record Kaolin Output

With the rapid expansion of paper making plants in the South, the increasing production of kaolin or China clay, especially in the South, is of interest. Principal uses of kaolin are in the manufacture of paper, both as filler and as coating, rubber, whiteware, white cement, paints, and high grade tile. Smaller amounts are used in chemical manufacture, for plaster products, oilcloth and linoleum.

Production of kaolin increased to 638,939 tons in 1936 valued at \$4,537,000, an all-time record output for the United States. Georgia, the leading producing state, reported 419,395 tons, or 66 per cent of the country's total, followed by South Carolina with 128,199 tons, and 8,657 tons in North Carolina. Other Southern states producing kaolin are Alabama, Florida, Missouri, Maryland and Virginia.

## Continuous Gas Smelter for Smelting Frit, Porcelain Enamel and Mfg. Co., Baltimore.



## Labor Saving Equipment

Economical methods of handling paper pulp, or other heavy-piece materials, are available by the use of a fork-type power truck which permits rapid handling, transportation and stacking, in some cases doubling or tripling the available storage space without any increase in floor space.

The accompanying illustration is a Baker Type 1M11-40 tilting-telescoping fork truck in which the telescoping lift feature gives an overall height low enough to enter a standard box car and when extended high enough for extremely high stacks. No auxiliary equipment is needed, one man with a similar truck has been known to load a car of pulp at the rate of one ton a minute.

## World Consumption of American Cotton 14,326,000 Bales

World consumption of American cotton amounted to 14,326,000 bales, including 1,073,000 bales of lint, for the year ended July 31, according to Henry Plauche, Secretary of the New Orleans Cotton Exchange, in his annual summary of the American commercial cotton crop.

Cotton consumption in the South was 6,967,000 bales, including 419,000 bales of lint.

The world's carry-over this season of American cotton is 6,108,000 bales, including 368,000 bales of lint. The carry-over in the United States amounts to 3,968,000 bales of which 1,665,000 bales are in the hands of the Government.

American cotton exports, including Canada, are 5,771,000 bales.

The American commercial cotton crop, or the amount marketed, is 14,371,000 bales, including 1,135,000 bales of lint.

## Motor Vehicle Shows

The National Automobile Show is to be held at the Grand Central Palace next October 27 to November 3, and the National Motor Truck Show is to be held in Newark, N. J., November 6-12.



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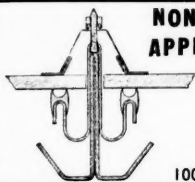


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American Limestone Co., Knoxville, Tenn.

## Structural Materials of the Tennessee Valley Region

**L**IMESTONE, marble, granite, sandstone, slate, sand, gravel, rock asphalt, cement, lime and gypsum are among the structural materials available in the Tennessee Valley Region.

Limestone is the most widespread rock occurring. It is probably only surpassed by the coal resources. In the western part, limestone outcrops in a belt 60 miles long and four to eight miles wide in beds 30 to 50 feet in thickness, comparing with the Bedford stone of Indiana and that produced at Bowling Green, Ky. The Rockwood Alabama Stone Company, is the only commercial producer so far. In the vicinity of Crossville and Crab Orchard, Tenn., the Crab Orchard Stone Co. quarries building and ornamental sandstone. From the eastern Tennessee Valley area and the states of Georgia, Alabama and North Carolina has come over one-half of the marble produced in the United States. More than 30 companies produce crushed stone, while crushed slag has been supplied by the Birmingham Slag Co., Alabama City, Ala.; Tennessee Copper Co., Copperhill, Tenn., and Tennessee Sand and Gravel Company, Sheffield, Ala. Rock asphalt deposits vary from 5 to 20 feet in thickness and have a bitumin content of 3.5 per cent to 7.5 per cent. Two plants producing asphaltic limestone include the Alabama Asphaltic Limestone Company, Margerum, Ala., and the Rock Asphalt Corporation, Cherokee, Ala. Of the 19

Portland cement plants in the Southeast, five are located in the Tennessee Valley drainage basin, and plants at Rockmart, Ga., and Birmingham, Ala., are just barely outside. Principal producers in this competitive field are: Volunteer Portland Cement Company, Knoxville; Universal Atlas Cement Company, Leeds, Ala.; Pennsylvania-Dixie Cement Corporation, Richard City and Kingsport, both in Tennessee; Penn-Dixie Corporation, Clinchfield, Ga.; Lone Star Cement Corporation, and Alpha Portland Cement Company, both in Birmingham; National Cement Company, Ragland, Ala.; Signal Mountain Portland Cement Co., Chattanooga; Cumberland Portland Cement Co., Cowan, Tenn. Natural, Puzzolan and alumininate cements are made. Gypsum, plaster and lime make up the other construction material industries of the Tennessee Valley area.

Data on these materials have been compiled in Bulletin No. 6 by the Tennessee Valley Authority, Knoxville. Structural clays are now being studied and will be made the basis of a later report.

### Dallas Knows Value of Open Shop System

Dallas, Texas, is one of the original open shop cities and has maintained

open shop conditions among its industries against all outside efforts to change. Present indications are that Dallas labor and industry intend to continue the open shop system.

Declaring among other benefits that labor has prospered under the open shop in Dallas, the Chamber of Commerce asserts there has been less unemployment than in any city of similar size in the country. There have been no periods of enforced idleness due to strikes. Wages are higher. Dallas labor is loyal and efficient and employers can afford to pay better wages because productivity is higher. Living and working conditions are far above the average. Per capita buying power is fifth in the nation. Dallas has more telephones per capita than any other American city. Living standards generally are high, made possible by good wages.

Industry likewise has prospered. The growth of Dallas as an industrial center has been remarkable in recent years, due in a large measure to the fact that many national concerns have established important plants there.

Outside organizers seem to be the only persons who are dissatisfied. Dallas' population is 97 per cent native American and is not easily influenced by foreign agitators.




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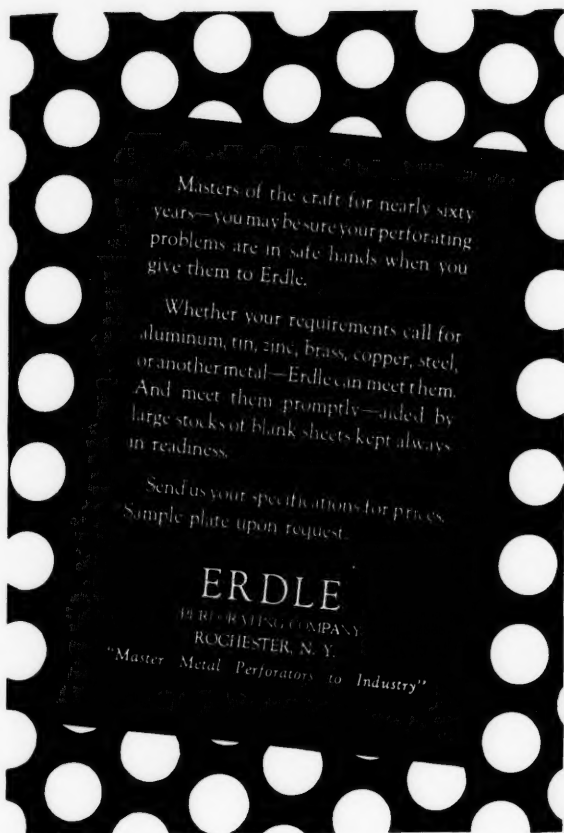
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POWER TRANSMISSION EQUIPMENT  
ELEVATORS AND CONVEYORS**

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Atlanta, 1116 Murphy Ave., S. W.

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## 30,000 Per Cent Profit

BY

**W. F. Schaphorst**

IT is comparatively easy to compute the money loss due to a slipping belt. First compute the percentage of slip in, say, your main belt, by using this formula:

$$\frac{100n(d+t)}{N(D+t)} = \text{per cent belt slip}$$

Where  $n$ =r.p.m. of the driven pulley;  
 $N$ =r.p.m. of the driving pulley;  
 $d$ =diameter in inches of the driven pulley;  
 $D$ =diameter in inches of the driving pulley;  
 $t$ =thickness of the belt in inches.

I believe it is well known by most users of belt transmission that each per cent of belt slip represents a loss of 1 per cent of the power. Thus referring to the above mentioned main drive belt, each per cent slip of that belt represents a cost of 1 per cent of the annual fuel bill.

The table below gives a good idea as to the possibility of the annual loss due to belt slip when slip is not prevented:

Per Cent Slip	Annual Cost of Power \$5000	Annual Cost of Power \$10,000	Annual Cost of Power \$20,000	Annual Cost of Power \$100,000
1	\$50	\$100	\$200	\$1,000
2	100	200	400	2,000
3	150	300	600	3,000
4	200	400	800	4,000
5	250	500	1,000	5,000

Belt dressings are decidedly inexpensive as regards first cost. The above table shows why a little of it can save a lot of money in a year's time. Of course conditions vary considerably in the treatment of belts. Some belts require a great deal of dressing whereas others do not. I have in mind belts which need dressing only once every two or three years. A dollar's worth of dressing on such belts may therefore earn much more than 30,000 per cent. In general my recommendations are: don't allow your belts to become dry; don't use sticky dressings; don't use harmful dressing; keep the fibres lubricated; don't use too much dressing.

Regarding the amount of dressing used per horsepower, I know of no rule to cover the situation because requirements are so variable. A hard and fast rule is impossible. However, the following statement made to me by a well known manufacturer of belt dressings is helpful:

"We have always stated that one pound of our treatment will dress a 100-ft. belt 6" wide for three months. We think this is a modest estimate."

I find that 30,000 per cent profit is not at all uncommon. In fact 100,000 per cent profit is possible. It all depends upon the belt, the design of the drive, and conditions in the plant. If it is a first-class belt, if pulleys are sufficiently large in diameter and sufficiently wide, and if all conditions are right, the belt will need very little dressing. I know of belts that have never been dressed at all and they do not slip. If they ever do start slipping it is clear that a few cents worth of dressing can save hundreds of dollars resulting in savings that seem unbelievable.

## Increased Demand for Sulphur Boosts Industry's Earnings

In the report to directors, Langbourne M. Williams, Jr., President of Freeport Sulphur Co., referred to consolidated net income for the six months ending June 30 of \$1,279,841, which was equal to \$1.56 per share on common stock after provision for preferred dividends and all charges except surtax on undistributed profits. Earnings for the same period of 1936 were \$1.22 per share.

A dividend of 50 cents was declared on the common stock.

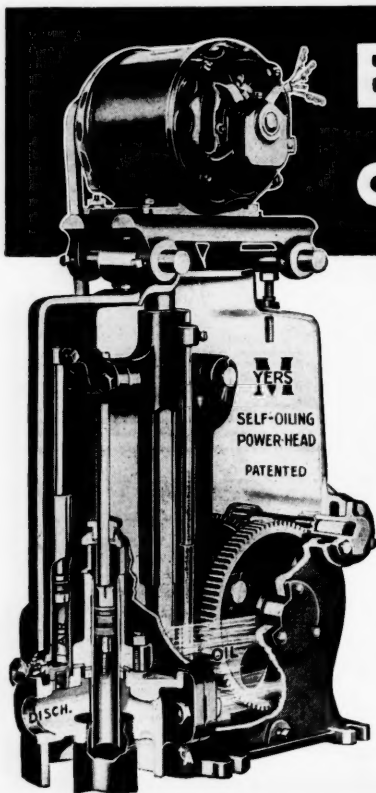
Mr. Williams attributed the company's increase in net to the steady rise in industrial and agricultural demand for sulphur, as well as the accelerated pace of American business generally, which called for an increased use of sulphur in manufacturing processes.

The paper and pulp industry is also a principal factor. Freeport sales to this group increased 37.7 per cent over the first six months of 1936.

The rayon industry, operating at 149.7 per cent ahead of 1929 levels created an unusual demand for sulphur.

One of the chief subsidiaries of the Freeport Sulphur Co. is the Cuban-American Manganese Corporation, which is now operating profitably and producing at the rate of over 10,000 tons per month. The return to a profitable base is due to improvement of the Cuban Company's production facilities and higher prices for manganese.

The entire output of the company is now being consumed by steel manufacturers in the United States.



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Regardless of what others may do, we continue to build Myers Self-Oiling Power Pumps for more years of better service.

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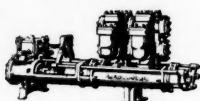


**PUMPS—WATER SYSTEMS—HAY TOOLS—DOOR HANGERS**

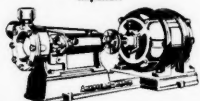
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CENTRIFUGAL PUMPS . . . Split and solid case types.



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STEAM PUMPS . . . Simplex and Duplex types in all practical sizes.

Years ago our old name — American Steam Pump Company — was entirely appropriate, for then we made steam pumps only.

But now we also build centrifugal pumps, turbine pumps and power pumps for many services.

And so to better associate our Company name with our long established trade name — American-Marsh — by which most of our equipment is known, we have recently changed our Company name to that used in the signature below.

However, there has been no change in financial structure . . . no change in management . . . no change in quality standards maintained for more than 60 years . . . no change in address.

May we be favored with your next pumping inquiry?

**AMERICAN-MARSH PUMPS, INC.**

Centrifugal, Turbine, Steam, and Power Pumps

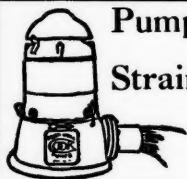
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WATER PRESSURE SYSTEMS

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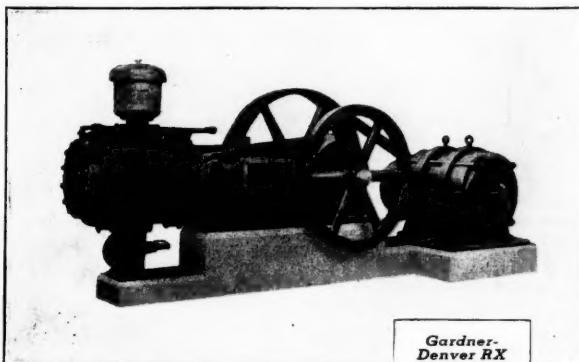
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DALLAS, TEXAS; HOUSTON, TEXAS; WASHINGTON, D. C.

# GARDNER-DENVER

## Personals

NEIL E. JERSEY becomes vice president and general manager of W. A. Riddell Corporation, Bucyrus, Ohio, manufacturers of road machinery and clay working machinery, succeeding the late H. F. Holbrook. Mr. Jersey will be assisted in road machinery sales by C. A. Beal, and the "American" line of brick and clay working machinery is under the jurisdiction of Lambert Haigh.

FRANK T. SHEETS, for the past four years consulting engineer and director of development of the Portland Cement Association, Chicago, on September 1 becomes the new president of the Association, succeeding Edward J. Mehren, resigned.

CHAS. R. HOOK, President, American Rolling Mill Co., returning from Europe says: "American steel workers receive  $2\frac{1}{2}$  to 7 times more wages than European workers, and living standards cannot compare with American standards."

E. F. KINGSVATER, Phillips Petroleum Co., Bartlesville, Okla., has been appointed chairman of the American Petroleum Institute's Topical Committee on Materials.

E. E. HORN, Marietta, Ga., has been appointed zone representative of the Roots-Comersville Blower Corporation, Comersville, Ind. He will cover South Carolina, Georgia and Florida, appointing jobbers for the sale of the company's line of industrial pumps, water systems, and condensate units.

J. E. MILLIS, president of Adams-Millis Corporation, High Point, N. C., has been elected chairman of High Point Board of the Wachovia Bank and Trust Co., Winston-Salem, N. C.

ALFRED T. CLIFTON, Waco, Tex., has been elected for the 11th consecutive term to the presidency of the Texas Manufacturers Association.

FRANK HICKS is to be in charge of the new publicity service of Crane Co., Chicago, manufacturers of valves, fittings, heating and plumbing equipment.

E. J. F. WILSON, consulting engineer, Lynchburg, has been elected president of the Virginia Society of Professional Engineers,

and G. A. Peple, Jr., consulting mechanical engineer, Richmond, vice president.

ERNEST LEE JAHNCKE, former assistant secretary of the Navy, New Orleans, was elected secretary of the State Board of Industry and Commerce, Baton Rouge.

J. R. BARNES has joined the sales department of Wilson & Bennett Mfg. Co., Chicago, maker of steel drums and pails.

GEORGE H. HUMPHREY, president M. A. Hanna Co., Cleveland, and director and chairman executive committee of the National Steel Corporation, has been elected director of Phelps-Dodge Corporation.

JAMES A. GIBBONS joins the field organization of the Hancock Valve Division, Consolidated Ashcroft Hancock Co., Bridgeport, Conn., and will specialize in industrial power plant and public utility construction.

H. B. ALLEN becomes vice president of John B. Astell & Co., Inc., New York, distributor of Babcock & Wilcox tubular products.

JAMES L. BROWN, formerly associated with General Motors, is now vice president in charge of sales of Covered Wagon Co., Mt. Clemens, Mich.

ARCHIE V. MURRAY succeeds Mitchell M. Frey, Jr., resigned, as secretary and treasurer of Wm. B. Seafie & Sons Co., steel tank fabricators, Oakmont, Pa.

W. J. VEREEN, industrialist, banker, and former Mayor of Moultrie, Ga., was elected to the board of directors of the First National Bank of Atlanta.

W. B. PICKARD, Indian Head Mills, Cordova, Ala., is the new president of the Alabama Cotton Manufacturers Association, succeeding Scott Roberts, president, Adelaide Mills, Anniston, who was made chairman of the board after serving as president of the Association for 25 years.

DONALD C. BAKEWELL, who recently became affiliated with the Blaw-Knox Company, has been elected a vice president.

G. W. HOSKINS, recently with Lincoln Electric Company, has joined the Harnischfeger Corporation of Milwaukee as sales engineer for Smoothare Welder and Weld Rods in the P & H Philadelphia territory. Practical welding experience combined with years of sales experience will stand him in good stead in his new connection.

M. F. MELVILLE has been appointed manager of manufacturers' wire, and stainless steel wire sales of Pittsburgh Steel Co., Pittsburgh, Pa.

H. M. HEMPSTEAD has been appointed director of advertising of the Hupp Motor Car Corporation.

JOSEPH HUMMEL, JR., secretary-treasurer Eagle-Picher Lead Co., Cincinnati, has been elected president and treasurer of the company.

W. R. WUEST has been elected president Junkin Safety Appliance Corp., Louisville, Ky.

J. F. RECTOR, Missouri Pacific Lines, St. Louis, has been promoted to director of publicity-advertising, succeeding E. H. McKeynolds who resigned to become vice-president of the Jas. Mulligan Printing and Publishing Co., St. Louis.

EVERETT D. GRAFF, first vice president Joseph T. Ryerson & Son, Inc., Chicago, merchandising subsidiary of the Inland Steel Company, has been elected president. Edward L. Ryerson, Jr., is chairman of the board and vice chairman of the Inland Steel Company. W. F. Kurfess and V. H. Dieterich were elected vice presidents of the Ryerson company and Ainslie Y. Sawyer was made assistant to the president.

LARKIN H. PARRIS has been appointed vice president and general trust officer, of the Citizens & Southern banks of Georgia, reports president William Murphy.

R. J. HAWN was elected vice president of Monsanto Chemical Co. He has been director of manufacture with several Monsanto plants under his supervision and was vice president of Swann Chemical Company prior to its absorption by Monsanto Chemical Co. in 1935.

LINCOLN GREEN, Assistant to President, Southern Railway System, in charge of industrial and agricultural development, retired August 1 after more than 50 years service. He is succeeded by Richard W. Wirt, assistant freight traffic manager in charge of Florida Freight Traffic, Jacksonville, who becomes assistant vice-president with headquarters at Washington and will aid industries with localities served by the Southern Railways seeking Southern locations and cooperate way in developing Southern resources.

1905 **Strand** 1937

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**WICKLIFFE, OHIO**

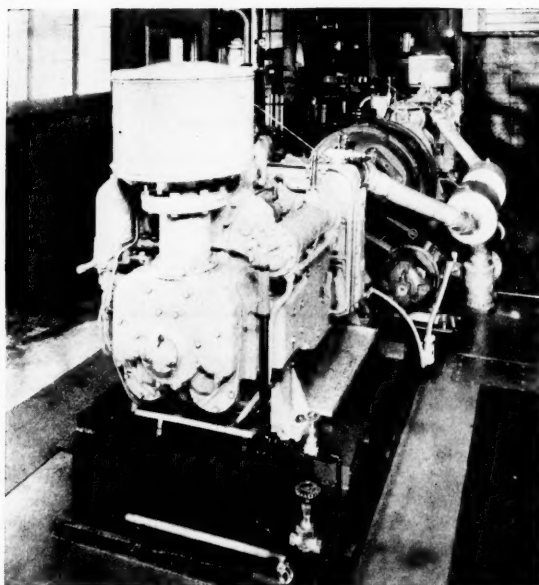
## **THOUSANDS OF HOURS OF PRELIMINARY TESTING PROVED THE STERLING CRANKLESS DIESEL ENGINE**

*Built under*  
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### *Service reports state:*

"I recently inspected both engines, and found all injection nozzles clean and free from carbon. One piston was removed and the head was absolutely clean and no hard carbon was baked on it as I have observed on other Diesels, and the rings were free.

"Several slipper pads removed for inspection showed the babbitt on these pads to be gray, with no bright spots or signs of wear, and without any cracking due to high bearing pressures. The babbitt on these pads looked identical with the babbitt on new pads and as though they had never been used. I measured the clearance on all slipper pads and found them identical with the original clearances, with no sign of wear on either pad or slant disc surfaces. The slant discs were absolutely free from any marking or scratching."



*Installation of 2 STERLING crankless Diesel engines in American Ice Company plant, Sacramento, California.*

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Dept. C-7

*Branch Office,*  
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New York, N. Y.

## The Luxury of Government

(From the Charlotte Observer)

Government is a necessity, but in this country it has gone to luxury proportions when the factor of cost is considered.

And this factor of cost can not be left out of the picture by any citizen in the country, rich or poor.

There are those, of course, who delude themselves into thinking and saying that all of this is of no interest to them—they pay no taxes!

But they DO pay them.

Taken by and large, the earnings of every worker in America for three months out of the full twelve of a year go to the upkeep of his government, or, roughly 25 per cent of their earnings.

Taxes necessary for the maintenance of government in this country which bear down upon every wage-earner are not only continuous but they are everywhere one turns.

From the time one jumps out of bed in the morning from between sheets that are taxed at four cents the pound, the burden never lets up.

On hosiery, shirt, shoes, and clothes you paid a tax of approximately 20 per cent. For example, there are 63 taxes on a suit of clothes, so that on a \$35 suit there is a tax of \$6.86.

You sit down to eat and once again the tax collector is an uninvited guest. There are 58 taxes on bread, 38 taxes on meat, 32 taxes on canned food, 45 taxes on sugar, one and a half cents on a quart of milk, or a tax assessment of over 20 per cent of the cost of all the food you eat. Your silverware, linens, dishes, and other household appliances each has the mark of the invisible tax collector.

Starting to work, one rides in an automobile that is TAXED 345 TIMES. There are 26 taxes on the purchase of it, 117 on its upkeep and 201 on the oil and gas used. The tax on gas is greater than its wholesale cost.

There are 146 taxes on drugs and medicines amounting to one-third of their cost. Your insurance premium is taxed at from 15 to 20 per cent.

The specifics of the case might be continued almost indefinitely.

But the simple point is that the kind of

government we have in America is fearfully expensive, and that it is expensive alike upon all.

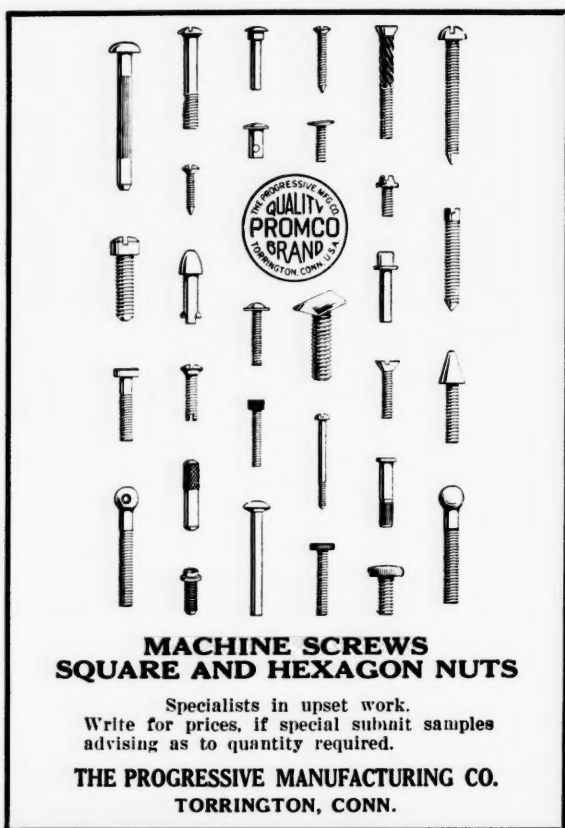
This is the reason that everybody, from the richest to the poorest, should have a concern about this unhappy situation.

In no other way can the tendency to keep on keeping taxes high and government costly be checked.

If left to the politicians, the procession of multiple levies and higher taxes and more expensive administration will never let up.

The Chancery Court at Newark, N. J., has ruled that a closed shop is unlawful, a contract providing for a closed shop is unlawful and unenforceable, and picketing for a closed shop is unlawful.

The decision in part said: "Whatever enthusiasts may hope for, in this country every owner of property may work it as he will, by whom he pleases at such wages and upon such terms as he can make; and every laborer may work or not, as he sees fit, for whom, at such wages as he pleases; and neither can dictate to the other how he shall use his own, whether property, time or skill."



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SQUARE AND HEXAGON NUTS**

Specialists in upset work.  
Write for prices, if special subunit samples  
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**THE PROGRESSIVE MANUFACTURING CO.  
TORRINGTON, CONN.**



**STOP LOSS**

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